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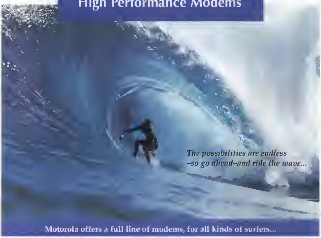
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FROM THE EDITOR

Publishing show draws mixed crowd

I recently attended the Seybold Seminars publishing technology show in Boston. This show while smaller than the San Francisco Seybold Seminars which is usually held in the fall demonstrated some interesting trends in the publishing world — with a number of Canadian based companies playing a role in these trends.

The publishing world is growing increasingly schizophrenic. This show reflected that, and seemed to be heading off in at least two directions very rapidly.

Heavy metal

The heavy-iron side of the show has vendors demonstrating the latest high-resolution image setters, devices that create film negatives for printers to burn plates from digital cameras and scanners.

One hot product group on display was direct to-plate technology (or computer-to-plate/CTP as some vendors are calling it), which allows publishers to skip a step in the publishing process, sending their files into the printer by modem and having their information turned directly into printing plates. The people at the printing plant don't have to create film to burn these printing plates, a necessary step in most printing processes currently. Although they had no booth on display Burnaby B.C.-based Creo Products (604-451 2700) is a leader in this area.

Soft electrons

The more ethereal side of the show is the move by publishers entirely out of printing information to paper and, instead going straight onto the Internet. Programs like PageMill from Adobe Systems (416 360-2317), HoTMetaL from Toronto's SoftQuad (416-239 4801), and InContext Spider (416 922-0087) all help publishers code their content into HTML (hypertext markup language) pages for display on the World Wide Web.

Numerous SGML vendors were there selling their wares that move SGML onto the Web. SGML (standardized general markup language) is the grandfather of HTML. It has a long history in government and military installations in the United States. Before word processors talked to each other easily, SGML allowed different departments to transfer complex formatted documents between their different publishing systems. Exoterica of Ottawa (613-722 1700), Microstar Software (613-596-5934) of Nepean, Ont., and SoftQuad were demonstrating their SGML-based products.

A variety of Internet publishing systems were also on display. Again because of the strength of the Macintosh in the publishing market and its relative ease of use, it is being called into service as an Internet publishing platform. According to surveys by people who keep track of such things the Mac is the platform of choice for up to 20 percent of all World Wide Web servers. This is a large number when you consider the overall market penetration of Macintoshes is reputed to be only about 10 percent.

One specialized niche for Internet publishing involves getting low-resolution images samples such as from a stock photography company onto the Web. Canto Software (415 905-0300) was promising both a Windows NT version of Cumulus its image database software as well as a CGI for its current Mac-based software to serve the images up to the Web.

Sun Microsystems (905-477-6745) was there promoting the joys of its Java programming language. This is the product that is supposed to liberate the world and allow $500 Internet computers. Nothing looks very exciting yet, but there certainly does seem to be a large number of very smart people thinking that there is some truth to this new approach.

Apple Computers (905-477-5800) launched two new UNIX boxes using Power PC chips and running IBM's variant AIX. These boxes are targeted at all the Mac publishing shops who have gone to Silicon Graphics or Sun to provide extra horsepower for demanding applications. Apple hopes to sell 1 000 to 2,000 a month according to the product manager.

The middle way

What was left in the middle of these two divergent paths for publishers were increasingly specialized systems to automate or improve existing print production processes. The Quark Publishing System (303-894-8888) helps larger newspapers automate the work flow of producing a daily newspaper. Vancouver's *Pacific Press*, publisher of the city's two daily newspapers, was featured as a company that has used this system to good effect.

At least three systems offered publishers a way to speed up their layout planning for complex magazines and newspapers: Managing Editor's Ad Layout System (215-886-5662), newcomers Nth Degree Software (800-428 9797) with its Proteus system and Montreal-based Informatel (514 975-9000).

Informatel had print copies of *Auto Hebdo* from Montreal in its booth as a demonstration of the types of products it has helped to automate. These systems take a spreadsheet list of ad bookings and allow you to drag them onto a screen layout which creates an ad map to plan a publication's pages.

The guys from Ultimate Technographics (514-938-9050) of Montreal had the coolest black jackets at the show with "Ultimate" embroidered on the back in big letters. They were on hand to promote a variety of high-end trapping and stripping programs (nothing to do with the Arctic or the seedier side of town). These programs compete with Adobe's new Luminous Corporation (206 669-6700) which sells Print Central, PressWise and Color Central.

Ottawa-based Corel Corporation (613 761-0826) was on hand to show off plans for new Internet tools, a new version of Corel Ventura and a long-awaited CorelDraw for the Macintosh.

Corel had launched a Mac-based CorelDraw project a few years back but it had made the mistake of believing Apple would make its GX graphics technology a standard. Apple delayed shipping and Corel canceled the project when it became evident that the market was rejecting GX in favor of sticking with the established PostScript standard. Now Corel is back on board with as many as 30 engineers working on the same code base that is in CorelDraw 6.0 for Windows 95, and promises a working product for June of this year.

The Seybold show used to be dominated by discussions of which page layout program to select and which platform to run it on. That argument has largely been answered by most magazine and newspaper publishers — they use Quark XPress on a Macintosh. I spoke with another publisher who publishes a monthly Windows graphics magazine. He was grumbling because he claimed that *PC Magazine* is still being produced on Macintoshes.

For more information on any of these companies, check out this site on the Web: http://www.sbexpos.com/sbexpos/seybold/east/index.html

Enjoy the issue.

Douglas Alder
Editor/Publisher

Bob Hope we're not, but ...

Thanks to your distribution manager for the copies of *The Computer Paper*. The papers are being widely distributed to all the Canadian camps in the former Republic of Yugoslavia. As we are a multinational force, members of other cultural contingents are enjoying the informative and well-written articles. The Canadian perspective on technology and advancements is nice to see. Your wide range of advertising has us on the edge of our seats with anticipation of our return home to Canada.

From all of us computer enthusiasts in Bosnia thanks for your support.

Master Corporal Darren Cluney

(This letter is in response to a request we received some months ago to send copies of The Computer Paper *to Canadian troops serving in Bosnia. — Ed)*

Real fax, real fast

In his review of the Xerox WorkCentre 250, Jeff Evans bemoans the fact that its fax modem is limited to 9,600 bps. Earlier in the article, he mentions that the modem takes 10 seconds to transmit an average page. That's pretty fast by any standard! I believe the true situation is that the WorkCentre 250 will scan into memory the average page in 10 seconds. Typically it then takes about a minute to transmit that page to the remote fax machine. Also much of the time associated with each call is the call set-up. Multiple-page messages are faster per page than single-page messages because of this. Of course I agree with Jeff when he suggests that Xerox should have used a 14,400bps modem — this would allow transmission times of, typically, 40 seconds per page.

Jim Roche, via Internet

A Pentium VLB?

I wonder if you could help me with a few questions concerning Pentium motherboards. My system consists of a 486DX-33 VLB Gigabyte motherboard and, since prices for Pentium chips are dropping, I am thinking of upgrading my motherboard soon.

1) I've noticed that many, if not most, Pentium motherboards are PCI. I have a fairly decent VLB video card and a VLB cache-controller card with 4 MB of RAM on my present system. If I upgrade to PCI, extra money will have to be spent to replace these boards, but what's most unfortunate is that they will be wasted. Are there VLB Pentium motherboards? Are they as reliable as PCI boards? Are they fairly easy to get?
2) How important is the size of the secondary cache (SC)? Most computers come with 256K. Would 1 MB or 512K make a significance difference to performance? Are there disadvantages to a large SC?
3) I'd like to keep the 30-pin RAM modules I have now when I upgrade. I understand there are now many RAM adapters on the market. Do they work equally well? Have you heard of any problems with them?

Francis Siu, BC, via Internet

CF Replies: 1. Pentium motherboards are PCI more or less right across the board. There was some experimentation with PCI/VLB combination motherboards but you will be very hard pressed to find one. IBM (I think) had a hybrid motherboard in one of its systems a year or more ago. Although I'm not sure if it was Pentium or 486-based.

2. 256K cache is considered the sweet spot for secondary cache, the marginal benefit of adding more decreases after this level. However, upgrading a cache from 256k to 512k will give you a slight performance benefit, if you want to squeeze every last drop of speed from your computer add more cache.

As of yet we have not heard of any problems associated with SIMM converters. We do know one or two happy customers.

DT adds: Intel makes a product called the Pentium Overdrive chip in 63 MHz and 83 MHz versions. If your motherboard supports the Overdrive, you might find you can keep it, along with your expensive VLB cards and the 30-pin SIMM chips. Your motherboard may support the Overdrive chip if it has either an oversized pad where your present 486 processor sits (the 486 will be smaller than the socket and you will see a row of empty holes around each side of the 486 chip) or a separate socket into which the Overdrive chip fits. However, just because your motherboard has the right socket, that's no guarantee that it will support the Pentium. We are currently evaluating the 83 MHz Pentium Overdrive, and so far we've run into difficulties with two different motherboards — a 1993-vintage DX2-66 and a one-year-old DX4-100. These are both preliminary assessments, but it seems that in one case, we need to update the BIOS, and in the other there's a memory timing problem that has to be solved. Stay tuned.

Unfair comment

In the review of our product *ResumeMaker Deluxe CD* February 1996 issue, the reviewer, Martin Waterman, stated that "some titles are very good, while others leave you wondering how a company could release such a buggy or inferior product" when referring to Individual Software's products. Pretty strong statements. We called him to find out specifically which products he had experienced problems with. He indicated that this information had come to him secondhand from the editor. When we called the editor, David Tanaka, he vaguely recalled a story meeting with Mr. Waterman but he could not recall which of Individual's products were being referred to.

As the leading Canadian computer publication, you did your readers and Individual a great disservice by allowing vague, unsubstantiated statements like these to appear in print. We have been in business since 1981 and our unit sales to technical support call ratio is among the lowest in the industry. This is because we don't ship buggy products. This also allows us to offer customers free, unlimited 800-number technical support, while so many other software companies have had to discontinue this service. Individual Software is not above criticism, however these statements have no factual basis.

Ms. Jo-L. Hendrickson, President, Individual Software

DT replies: Your point is well taken. If something I said during my story meeting with Martin led him to that conclusion, I apologize for having given him that impression. But whatever the source, that kind of statement should have been lost on the cutting room floor. It is certainly not The Computer Paper's *style to take cheap shots at products or companies.*

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For the record we have no ax to grind with Individual Software. I have encouraged other reviewers to look at your products, and The Computer Paper has regularly carried reviews of them including two of your personal organizers in our January issue on organizers, and your Family Ties software in this month's roundup of genealogy software.

Defending CompuServe

Your very useful article on choosing an ISP in Mar 96 issue provides a bit outdated information on CompuServe:

- CompuServe does have an alternative pricing plan
- non-cryptic Internet addresses are promised this spring (mine will be sergei@compuserve.com)
- Web page can be uploaded,
- Web page is free, file limit is 1 MB

The drawbacks of the Web access from CompuServe are:

- painfully slow at least in Vancouver area
- proprietary dialer and Winsock don't work under Windows NT
- dialer is buggy and often crashes under Win 3.1

Serge (no last name given) via Internet

More ISP quibbles

A few niggling bits related to your story on "Choosing an ISP" in TCP March '96.

Point one: CompuServe has started allowing us members to register "regular" Internet names for implementation of the ubiquitous "johndoe@compuserve.com" type e-mail address some time early this year. They're being a bit vague as to exactly when, but none the less it's on the go.

Point two. I've had a chance to play with a 28.8Kbps setup and some office systems that use ISDN. For the most part I have not been overwhelmed with the increase in speed when accessing most sites using the faster rigs. Some fly, others poke along about the same. To suggest that "using any less than a 28.8Kbps modem is, in a word, foolish," is foolish. I have 14.4Kbps modems in both my personal systems and rarely have I felt the need to pound the monitor in frustration while waiting for something to download.

Let's be honest, for most of us, after e-mail, nothing on the Net is mission/time critical. To wait a bit longer to download a graphic or a sound clip and save $120 on the cost of a modem is worth it. At prime time (the evening hours) it's not the modem that's the problem anyway it's the volume. I say wait until next year for the 28.8Kbps. It will be better priced and hopefully there will be a greater number of sites pumping out stuff fast enough to make it really worth having.

Point three. MSN (Microsoft Network) is now offering Mac and Windows 3.1 beta versions of the Internet Explorer at its Web site. I finally decided to try the Win95 Explorer after I got tired of having to download a new version of Netscape every month. Three different times I tried showing a site to someone and first had to download a new copy of the browser. On one of those occasions the client had to leave before the download was complete. (And that was with 28.8Kbps setup!) At first blush with Internet Explorer my only negative comment is that I'm stuck with its icon on my desktop! What happened to having control over the look of ones desktop?

And on the Rogers Wave: It sounds great, but at $40 a month it deserves a sober second thought.

John Deweerd, via Internet

GB replies. Thanks for the comments.

1) *"They're being a bit vague as to exactly when, but none the less it's on the go." Yes, it is still vague, and has been vaguely "on the go" for about a year now. At the moment, we still can't seem to get a real name on CIS. Yet.*
2) *"To suggest that using any less than a 28.8Kbps modem is, in a word, foolish." Only if you already own a 14.4Kbps modem, in my opinion. Having a faster modem is an investment that pays off in $$ and time every time you use it. I seem to download an awful lot of stuff — it is worth it for me.*
3) *"MSN is now offering Mac and Windows 3.1 beta versions of the Internet Explorer at its Web site." True (although the 3.1 version didn't work in our tests and you forgot to mention the new NT version), but this was not so when the article went to press. FWIW, the latest url news is on our Web site (see http://tcp.ca/gb/whats_new.html), including references to the MSIE updates.*
4) *Rogers: I can't really comment, except to say that I'd pay that much in a minute to get that much speed. Now, whether they can deliver it . . . ?*

LAN speed records set here

Congratulations to Jeff Evans. Seems he has set a new land (LAN?) speed record for downloading. He mentions downloading an 8 MB QuickTime movie and states "instead of the usual 15 minute mouse waiting for the file to download." Am I nuts or do I remember about an hour to download a 5 MB file on a 14,400 bps modem? Was it a typo or is it time to give my GVC a swift kick?

He is right about one thing though. For us 14,400 bps people, why should we bother to pick up a 28,800 bps modem when any time we will hear "Coming soon to a neighborhood near you, Rogers wave!" I tell you, when I see figures like 500Kbps being tossed about, I almost want to move to a spot where I can get my cable from Rogers.

Brian Mahoney, Scarborough

JE replies: You are correct. I was very optimistic on the length of time that would realistically be required to download a large file via standard modem and phone line. Downloading an 8 MB file at 28.8Kbps, would probably take at least 45 minutes under reasonably good conditions. Under unusually favorable conditions (if you had perfect lines and top-quality late model 28.8Kbps modems with compatible data-compressive routines at both ends of the connection, and a file format that would benefit from additional data compression) you might be able to send the file in 15 minutes, but that's a lot of ifs. I've never got it to go quite that fast in reality. At 14.4Kbps, with the usual variable line quality etc. it might well take 90 minutes or more to download that size of file.

With Rogers Wave, I never got near 500Kbps in file transfers, but I regularly get 150-270Kbps. This allows an 8 MB file to download in as little as four minutes. The average is about seven minutes, if you have a high speed connection all the way. ❑

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what's new

Java programming environment for free

JavaSoft a recently formed subsidiary of Sun Microsystems has announced the launch of its Java 1 0 programming environment which can be downloaded for free from their Web site

Java is a programming language which can be used to create "applets" small applications which can be downloaded across the Internet and run locally on a user's machine Versions of the kit have been available since an alpha version was released to the Web early last year and this final release incorporates many of the components developers have requested

It includes a Java Applet Viewer for running and testing applets a Java Compiler, and a prototype debugger It also includes a Java Virtual Machine to run Java based programs and the programming language now supports class libraries for graphics, animation, audio and networks

Newly appointed JavaSoft president Alan Baratz says they are "delighted to invite developers to download Java 1.0 immediately and start building the next killer application." Java 1 0 is available for the Windows 95 NT and Solaris operating systems A version for Mac OS 7 5 is expected some time this spring

Contact Sun Microsystems of Canada 905-477-6745
Web site http://java.sun com

➤

Mom, apple pie, and the Internet: Oracle demos network computer

Oracle showed off the prototype for its text book-size network computer (NC) at the company's developers conference held in San Francisco in February

The prototype, shown by Oracle CEO Larry Ellison is based on an ARM RISC processor (the Apple Newton uses an ARM CPU chip) with support for ISDN Ethernet and 28 8Kbps modem connections, 8 MB of RAM and support for SVGA monitors or regular television sets

Oracle says the network PC is to be released in the fall of 1996 by one or more unnamed computer hardware manufacturers

The first model of the NC will retail for around US$500 and is designed to function as a "multimedia rich" computer connected to a server It uses anti-aliasing technology to make text more readable on an ordinary TV screen.

The NC doesn't come with a complete operating system but can connect to a network server and download any one of a variety of operating systems

Oracle one of the principal suppliers of information management software (1995 revenues US$3 5 billion) sees the NC as a technology to allow millions of additional users to connect to information networks including, but not limited to, those which use Oracle software

According to Paul Christllaw technology marketing manager for Oracle Canada, the NC is intended to supplement the PC

"The NC lives on a network along with PCs" he said "and could potentially offer a (low-cost) computer on every desk in a business or a school In the home It could be a service device for connecting to the Internet

Oracle claims the NC would be virtually maintenance free fulfilling the long time desire for a true information appliance According to Ellison My mother is a key tester of the Network Computer If my mother can't use it we don't have a Network Computer"

This first version of the NC will come with applications software including a Web browser e mail client word processor, spreadsheet database and scheduler Future NCs — which may come in laptop form be embedded in phones or TVs or be reduced to credit card size — should appear in the near future

Contact: Oracle Corp Canada 905-890-8100
or http://www oracle com/

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Calling all robot designers!
If you like to make your own robots or want to see mechanical creations pitted against each other in competition, go to the fifth annual Western Canadian Robot Games.

This year the event is being held in the main gymnasium of the Southern Alberta Institute of Technology in Calgary, May 25

Welcoming competitors from around the globe the games offer 12 events for competitors at various levels ranging from university graduate students to those in grade school. The non-profit contest is designed to promote science and technology with the hopes that some participants will "carry the torch" of robotics research

Robots compete in a form of hockey where they try to get ping pong balls into a goal, and autonomous robots have to make their way through a series of rooms with traps There is also "solaroller drag racing" for solar powered robots

One of the most popular events is robotic Sumo wrestling, where autonomous or remote-controlled robots compete to locate push, flip, roll, shove throw hurl or otherwise remove an opposing robot from the ring in the shortest time

In addition to the contests, there is a large exhibition of industry and commercial displays on computing and robotics The games are open to the public.

Contact: Craig Maynard, Western Canadian Robot Games 403-284-8401
E mail craig maynard@sait.ab ca
World Wide Web
http://www cps enel.ucalgary ca/ROBOTS/index.html

General Electric sells GEnie
GE Information Services a subsidiary of General Electric, has recently entered into an agreement with Yovelle Renaissance to sell its public online service GEnie Terms of the agreement have not been released to the public, and as yet it is unknown how this will affect GEnie or current subscribers

In the face of stiff competition from other online services and the Internet, GEnie's customer base is said to have dropped to about 50 000 Little is known about the firm acquiring GEnie

Yovelle Renaissance Corp was formed for the sole purpose of acquiring GEnie and it has been reported that it may be linked to IDT, an ISP in New Jersey

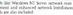
GEnie founded in the U S in 1985 became available to Canadians two years later. Its user-friendly environment, assortment of online games widespread local Canadian phone access, and large amount of Canadian content made it popular with subscribers here

GE Information Services is a leading supplier of business productivity solutions based on electronic commerce, and manages a trading community of more than 40 000 companies world wide

Contact: GEnie 1-800-638-9636

Microsoft releases service pack for Windows 95
Windows 95 users can now obtain a Service Pack from Microsoft which provides the most up-to-date drivers and components for the operating system The Service Pack assembles updated Windows 95 components that were previously available separately including fixes new tools and various third-party device drivers

Fixes include new file and printer sharing drivers and enhanced password list security There are also some new components, such as support for the 32-bit data link control (DLC) protocol and for infrared devices. Additional tools like Windows NT Server network management and enhanced network installation tools are also included



The CD-ROM version of the Service Pack includes the entire Windows Driver Library allowing users to install the latest drivers for their hardware devices An updated version of the Windows 95 Hardware and Software Compatibility List is also included

The Service Pack will be automatically sent to corporate customers who have purchased volume licensing.

It is also available for downloading from the Internet at no charge as well as through MSN (GO Windows) CompuServe (GO Winnews) America Online GEnie and Prodigy Alternately Windows 95 users can order the Service Pack CD ROM directly from Microsoft for $19 95 plus shipping and handling.

This Service Pack is meant to be used only with English versions of Windows 95 International versions of the Service Pack are expected to be available shortly

Contact: Microsoft Order Centre, 800-933-4750
Web site. http://www microsoft com/windows

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Why is this man smiling? Intel rides high on wave of new Pentium chips

Intel the manufacturer of most of the CPU chips going into personal computers around the world seems to be on a roll with no end in sight Doug Cooper architecture manager of Intel Canada was positively gleeful as he headed up a briefing in Toronto in early February to announce the forthcoming availability of a 133 MHz Pentium processor for notebook computers.

The new chips mean notebook systems "will rival desktop computers in their ability to deliver high-quality graphics full-motion video and stereo sound and run computer-intensive applications on the Internet," according to Stephen P Nachtsheim, vice-president of Intel's mobile and handheld products group

The chips consume very little power (3 3 watts) and generate little heat eliminating the need for a heavy ceramic base They are shipped inside long strips of plastic film and are then mounted on notebook mother boards

Cooper said that with the new chips, Intel is progressing more quickly than expected The US$5 billion Intel recently invested in chip fabrication technology and plants has resulted in better than expected percentages of useable chips per wafer and Intel expects to convert virtually all of its chip production to the new 35 micron standard by the end of 1996

Also since the new chips are cheaper than expected to produce users can expect both falling prices and very rapid increases in the speed of Pentium chips in most computers Intel's old chip plants will start to make other lines of Intel chipsets rather than being refitted to make the latest Pentium and Pentium Pro chips.

As is noted in this month's PC survey by the end of the year the entry level home PC processor will be a Pentium 133 representing a near doubling in processor speed over the course of one year.

Contact Intel Web site http //www intel com

Web site showcases educational multimedia

Davidson & Associates and Addison-Wesley Publishing have recently launched a sample of their state-of-the-art multimedia history [illegible] on the World Wide Web

Based on the Vital Links CD-ROM the Web site presents selections from the disc Developed jointly by Davidson & Associates (best known for its award-winning educational software) and Addison-Wesley in consultation with the Los Angeles County Board of Education the site is designed to showcase how learning can be enjoyed and enhanced by multimedia

The Web site is aimed primarily at American students who want to learn more about their nation's history The companies hope the site will also convert educators to the possibilities of using multimedia within a mainstream history curriculum

While accessing the site users can retrieve dramatic footage of World War I "fly through historical places in 3 D listen to Martin Luther King's "I Have a Dream" speech or view the Earth from the space shuttle Endeavour

For teachers the site also contains an in-depth description of the site's design philosophy and suggests ways in which the material at the site can be used in collaboration with traditional teaching methods

The original Vital Links package was launched in August 1995, and combines CD-ROMs videotape and teaching resource materials into six individual units spanning pre-colonial America right up to the present day

Contact Davidson & Associates Inc 1 800 545-7677
Web site http //vital davd com

Corel set to "jump into the Internet with both feet"

Corel intends to aggressively pursue Internet related business according to Michael Cowpland president and CEO of the Ottawa based company

Cowpland talked with *TCP* just prior to showing the new Corel Video enterprise video-communications system to a media crowd He also indicated that plans were in the final stages for a Corel PhotoCD online service, where Internet users could browse

Continued on page **13**

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Continued from page 11

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He also stated that future versions of Corel Draw and Ventura would have integrated World Wide Web publishing capability

Corel has also announced its new CorelWEB GALLERY a CD-ROM with over 7,500 clip-art images for Web page designers Grouped in categories such as "Icons," "Ready Made Buttons " and "Arrows," these objects are designed to make Web pages more intuitive and simple to use and more visually exciting.

"Anyone who needs to produce a Web page will appreciate the time cost and effort saved by having a ready made Web library at their fingertips " said Cowpland. The CorelWEB Gallery has a suggested list price of $99 and joins another Corel title, "Internet Mania," in the Corel consumer Internet CD-ROM line-up

Corel also unveiled CorelWEB.DATA, a 32-bit database publisher for the Internet. "Businesses SOHO users or individuals can now make their catalogues, mutual fund and stock reports or company phone lists easily available on the Web to an unlimited number of people" with this product, says Cowpland A trial version of the program can be downloaded from Corel's home page, and the complete program is available for $149

Additionally Corel offers CorelXARA a fast easy-to-use illustration program whose "anti-aliasing and graduated transparency features make it particularly well suited for the creation of Web page graphics," Cowpland said. Another new Corel title, the Corel Graphics Pack, includes a group of Internet utilities (for scanning, FTP, and home-page authoring) as well as graphics programs such as CorelPHOTO-PAINT6 CorelMOTION 3D6 and CorelFLOW 3

Contact. Corel 613 728 0826 or http://www.corel.com

Continued on page 22

Fraud squads investigate computer software offer

Officers from several Ontario law-enforcement organizations are investigating what they believe is a computer training scam

Bowmanville RCMP, Ottawa-Carleton Regional Police, Metropolitan Toronto Police, and officers of the Ontario Provincial Police Anti-Rackets Branch are working together after receiving numerous [illegible] complaints from across Ontario

The RCMP say the business in question is believed to be operating in the following manner

- The company advertises in local newspapers for computer owners who wish to work out of their homes
- Applicants are asked to attend an information session where the opportunities are described to them If they are interested they are asked to attend another seminar.
- At the second seminar applicants are told that, in order to work for the company, they must pay between $600-$700 for software and other accessories required to perform this job
- The company requires the funds be paid before receiving the software Applicants are told they can pick up the program at a later date
- [illegible] receiving the software, applicants had difficulty getting online, and [illegible] to do so, discovered the company's phone lines had been discon[illegible]
- [illegible] individuals complain that they [illegible] even received the software. The [illegible]'s office was found to be [illegible] no forwarding address or telephone [illegible]

People are urged to be cautious if they are considering entering into any business transaction similar to the one noted above, and to seek professional advice.

Anyone with complaints or information is asked to contact RCMP Const. Edie Kaldis in Bowmanville ☐

Contact. RCMP Commercial Crime Detachment, Bowmanville Ont. 800-461 6045 or locally at 905-697 6000 8 00 A.M to 4 00 P.M After hours and on weekends call 800-387-0020

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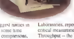

Preserving old memories

Computer collectors chronicle the 20th Century

BY KEITH SCHENGILI ROBERTS

People have always had the urge to collect things Some people collect postage stamps others collect and restore old furniture These are well-established hobbies with plenty of readily available information and resources designed to cater to collectors needs But what if you are interested in collecting something that everybody else thinks is junk? Then maybe you are a pioneer in your chosen collecting field Anything you do, say or write about your hobby may well lay the ground that others will follow later That's exactly the situation for people right now who collect old computers.

So why collect old computers? A lot of us are nostalgic about these old machines — the way they looked or sounded or the way some of them could fill a room Some people have a historical interest in these machines, and seek to retain a sense of the past

Nostalgia started Maxwell Froedge on his collection While at a surplus auction at a local university, he was able to purchase a 1975 vintage PDP11/45 mini-computer This was the computer he first used, back in high school when the school had an arrangement to give the students guest access on the university system

Patrick Finnigan, a 25-year veteran of the computing industry started collecting old computers when he realized that many of these old machines — including the type he learned to program on — were rapidly being consigned to the scrap-yard According to him, these old machines were becoming "Too costly to maintain, too heavy too big, and too power hungry!" to survive in the modern workplace He also thought it was sad to see these marvels of engineering being taken off to be crushed and stripped for their metal content.

Other people like mainframe collector Kevin Stumpf want their children to see the metal behemoths with their mesmerizing lights and myriad buttons in all their glory Stumpf wants his kids to understand what inspired him to enter the computer business many years ago Besides, as Stumpf says "collecting is fun."

The field is wide open for the prospective computer collector Most people work with either an IBM compatible or some form of Macintosh computer these days and for the past decade these two types of computers have dominated the industry

This relative lack of diversity wasn't always the case Between 1950 to 1979 it has been estimated there were approximately 1,300 different makes and models of computers manufactured Mainframes, minis and microcomputers are all fair game for the serious computer collector many of whom seek to preserve some examples of the evolution in computer technology over the years before it all disappears.

Preserving "old-iron"

Old computers are disappearing at an alarming rate This shouldn't come as much of a surprise as it is an industry built on the idea of technological obsolescence As a result

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many older mainframe systems in business are being replaced by faster cheaper micro computers. Most of the old systems are simply dumped or sold as scrap. Today there are very few examples of once-common computing systems that are still in working order. As part of his on going efforts to preserve the past, Kevin Stumpf recently acquired an IBM System/360 — all six tonnes of it — courtesy of IBM Canada. IBM System/360s were once almost a fixture of every large business that could afford a mainframe — back when buying a computer almost invariably meant you bought IBM.

Kevin Stumpf is hoping to open COMPUTERSEUM, Canada's first museum devoted to computing in Waterloo Ont. Amazingly enough, Stumpf currently has a total of 35 tonnes of computers, parts, supplies, documentation and other computer related materials in storage awaiting a more permanent home in his proposed museum.

In between work and soliciting corporate funding for his museum, he finds the time to write about the history of computing. There is very little written about this subject and like many other computer collectors, Stumpf is helping to create and disseminate knowledge about these old machines to aid other collectors and historians.

So why does he spend so much time and effort trying to save these old obsolete machines? As he puts it, "Computers have had a profound impact on humanity, so such a tool needs to be preserved to help the present generation appreciate what we've experienced and to help future generations understand the past to help them make sense of the present."

Keeping memories alive

Unfortunately, the people who pioneered computing are also beginning to disappear. Many of the people who helped build the first computers over 50 years ago have passed on and those left are either in their 70s or 80s. This was one of the reasons why Kip Crosby started the Computer History Association of California in 1993. He and many of his members have gone out to interview some of the famous people behind the history of computing in California.

This charitable association collects and archives hardware, software and [illegible] pertinent to the history of computing in [illegible]. It also publishes the Analytical Engine, a quarterly newsletter that includes interviews with computer pioneers, articles about the early days of computing and other developments of historical [illegible].

[illegible]

Not only are the people and the computers disappearing over time, but another big problem is that the programs are slowly deteriorating as the media they are contained on begin to decay. Many of the designers of these old computers never expected their machines to still be working decades after they were originally manufactured.

One emerging problem is that some EPROM (Electrically Programmable Read Only Memory) chips are beginning to degrade. Many of the early EPROMS had their microcode burned into them by a process of controlled electric melting. As a result, the bits that were fixed in place by this process aren't completely stable and tend to degrade within 10 to 20 years.

Kip Crosby gets all kinds of mail "from owners of things like old HP smart terminals that won't boot; their boot ROMs are EPROMs and they've died. Heaven only knows where you'd find the verbose microcode listings to burn a new EPROM."

There are solutions, however, and he knows of one collector in the United Kingdom who not only burns replacement EPROMs for his computers, but "backs up the code listings to punched Mylar tape, which is the closest thing to eternity that we can buy in bulk."

The biggest problems are old magtapes and eight-inch floppies which are in formats that can no longer be read, and program data stored on audio cassettes that are disappearing as the oxide on the tapes begins to flake off. That isn't the end of it. Sometime in the next century, information on CD-ROMs will either become obsolete or will have deteriorated beyond the point that they can be read. The preservation efforts by computer collectors and historians continue on all fronts.

"The one that got away"

Like any avid collector, most computer collectors have at least one story of the one that got

Continued on page **18**

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Collector's guide a rare find

Book helps hobbyists identify old computers, calculators

BY KEITH SCHENGILI-ROBERTS

A Collector's Guide to Personal Computers and Pocket Calculators
Author Dr. Thomas F. Haddock
Publisher Books Americana
Paperback, 368 pages 1993
ISBN 0-89689-098-8
Price US $14.95

If you are interested in collecting old personal computers, this is the book to have. In fact, so far, this is the only book available for computer collectors.

The primary purpose of this book is to help the reader identify old computers. Restricting itself primarily to microcomputers, it provides a detailed chronology of the evolution of microcomputers, from the pre-Altair Scelbi Computer Consulting 8H to the IBM AT. It follows a format standard to most collector's guides on other subjects — a short description of the computer, the date of manufacture, its worth and some notes on the machine. Pictures accompany most of the descriptions in the book.

The guide is not restricted solely to computers — there is an extensive section devoted to electronic calculators beginning with the original Hewlett-Packard 35. Thomas F. Haddock also looks at "luggables" and notebook computers, and devotes considerable space to various computer peripherals, concentrating on ground-breaking pieces of equipment like acoustic-coupler modems, and pioneering software packages like VisiCalc or MicroSoft BASIC for the Altair.

This book does have its shortcomings. The information it provides is enough to identify a given microcomputer, but that's about it. There's little space devoted to the hobby of collecting old computers, or restoring computers to working order. The prices it lists for various computers and devices are rather arbitrary — they should be taken as a general guide rather than a hard and fast rule. While hard-to-find computers like the original Apple I may well command a US $10 000 price tag, in many cases you can still find old, highly collectable computers at garage sales or ham radio events cheap.

There is also no question that, since its publication in 1993, the book has become dated, but right now it's all computer collectors have got. Rumor has it that Haddock is working on a second edition, but until that hits the press, the current edition is still recommended despite its shortcomings.

This is not an easy book to track down. If you want a copy, check out a specialty computer bookstore or the book racks at any ham radio shop. Failing that, try ordering it directly from Books Americana, or via your local bookstore.

Collecting old computers is an emerging hobby, and this book is undoubtedly the first of many such titles that will appear in the years to come. If you have stumbled across an old microcomputer and are wondering what it is, this book will help. ❑

Contact: Books Americana, P.O. Box 2326, Florence, Ala. 35630

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CD explores history of computing

BY KEITH SCHENGILI ROBERTS

Title	History of Computing Encyclopedia-on Disk 3.6
Manufacturer	Lexikon Services Publishing
System Requirements	6.3 MB of hard drive space
Price	US$15.00

Looking for information on old computer systems? Need to research the lives of famous people who aided in the development of computer technology? The History of Computing Encyclopedia-on Disk presents an innovative solution to these problems, providing a comprehensive history of computing you can read and view on your computer screen.

This digital compendium takes a thorough look at all things computerish. It begins with the early history of the mathematics, technology and people who helped establish computers and computing. It includes biographies of many of the founders of modern computing, ranging from the Victorian mathematician Charles Babbage to Bill Gates.

This encyclopedia also provides a wealth of information about the business of computing, containing potted histories of many computing firms past and present. A lot of space is devoted to the development of electronics and you can even learn about the genesis of some old, obscure operating systems like Tandy's TRS DOS or Heath's HDOS. There are plenty of pictures and a stroll through this digital gallery of obsolete computing will bring back memories for many long time computer users.

Included also are extensive sections on the evolution of computational devices like calculators and typewriters. It contains an A to Z overview of things like CP/M, early calculating machines, vintage programming languages, old office machines, vacuum tube computers and much more. Because it is published electronically on disk, it also contains some of the latest information pertinent to computing history like the recent buy out of Commodore by a German firm.

This is not the slick, polished product you will find in a typical software store. It definitely falls under the category of cottage-programming, produced by a small firm in the United States. The disk suffers from a clunky install program and a text reader that does not handle hyperlinks, severely limiting the advantage of having this encyclopedia in a computer readable form. But what this program lacks in slick packaging it makes up for in terms of content: over 1,000 pages of text, 110 photographs and an extensive glossary covering 7,000 terms.

This inexpensive digital compendium is ideal for anybody interested in researching the history of computers and for computer collectors. While rough around the edges, it will reward anyone truly interested in how computers have come to be what they are today.

The History of Computing Encyclopedia on Disk runs under DOS on any IBM-compatible PC. ❑

Contact: Lexikon Services Publishing
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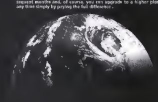

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Preserving old memories

Continued from page **15**

away prized computers that escaped their collection, or something they passed up before they caught the collecting bug. For collector Douglas Spense, it was the disk drives he lost for a Laser computer. He was so excited when he found the Laser 3000 at a Salvation Army store that, he says, his "brain short-circuited," and he "wanted to get out of there safely with the Laser in my possession as quickly as possible. Of course when I went back a few days later, all the disk drives were gone."

There are also many stories of collectors who have missed the opportunity of picking up a prized machine that was thrown out by somebody just the week before.

Collecting old computers is not just a North American phenomenon. In Europe — Britain in particular — many types of personal computers were created and marketed. Some of them, like the Sinclair ZX80, had a degree of success here, but many more of these machines never made it across the ocean in large numbers.

You should only buy computers "you've owned or used and have a genuine affection for. Otherwise you'll get taken, paying too much for stuff you might not know how to use/fix."

Matthias Bruestle is a collector in Germany who has picked up a number of systems that would be uncommon to most veteran North American computer enthusiasts, including several Sinclairs, a Kontron PSI-80, an EG2000 Colour Genie and a few German made Siemens computers. His interest in collecting old computers started when he began to feel that "old computers are interesting and should not be thrown away," and so he started to collect and preserve them.

Advice for the beginning collector

Bruestle has a problem that many other computer collectors around the world have to face: where to store their computers. Many of the pieces in Bruestle's collection are stored away in his basement, and only a few are actually on display or used in his home at any time. This leads to another problem he finds inherent in collecting old computers: "Parents, girlfriends and wives are not happy about so many computers."

If you are interested in collecting old computers, make sure you either have plenty of storage space, or start with relatively small machines.

So where are the best places to find old computers? Many gravitate towards flea markets or ham radio fests, and it is increasingly common to see old computers on offer at yard sales. Prices vary widely, but as a rule you can expect to pay more for older, rarer pieces.

Some business equipment shops often carry many old units. Occasionally these can be free for the taking. Finnigan also suggests that you pick up any ephemera if you see it. Tapes, cards, manuals, and advertising material can be in "even shorter supply than the machines themselves."

Many collectors use the Internet to get information on the computers they have, and to buy new ones for their collection. The best source on the Internet is the usenet newsgroup alt.folklore.computers, which has plenty of information available for computer collectors willing to ask others for help.

The best advice comes from Golan Klinger, who says that you should only buy computers "you've owned or used and have a genuine affection for. Otherwise you'll get taken, paying too much for stuff you might not know how to use/fix."

Serious computer collecting is still in its infancy, and many bargains can still be had at this stage for computers that are slowly being recognized for their collectable value. There always seems to be an old VIC-20 or Atari in a friend's closet, just waiting to be restored to its former glory.

As time goes by, you can expect the computers you have worked on over the years to become obsolete and disappear. It is somewhat humbling to think that today's Pentium Pros will become trite playthings for collectors 10 years from now, but you can be certain that this will come to pass. However, the care and work devoted by collectors to the computers helps to ensure that a little bit of the past — and the present — survives into the future. ❑

Writer Keith Schengili Roberts (kschengl@interlog.com) only has "a couple" of old computers in his closet.

Collecting contacts and sources

Usenet newsgroups.
alt.folklore.computers

Web pages
Kevin Stumpf's COMPUTERSEUM Collection
http://www.sentex.net/~comuseum
Dave Hicks' Museum of HP Calculators
http://www.teleport.com/~dgh/hpmuseum.html
Historic Computer Images
http://ftp.arl.mil/ftp/historic-computers/
The Home Computer Hall of Fame
http://pcsupp1.cc.rl.ac.uk:80/home/chris/hebel/
Obsolete Computer Museum
http://www.ncsc.dni.us/fun/user/tcc/cmuseum/cmuseum.htm
The Machine That Changed the World
http://ei.cs.vt.edu/~history/TMTCTW.html
CS-100: The History of Computing
http://calypso.cs.uregina.ca/Lecture/
Computer History Association of California
http://www.chac.org/chac/index.html
Commercial Computing Museum
http://prairie.sentex.net:80/~comuseum/index.html
Charles Babbage Institute
http://fs1.itdean.umn.edu/cbi/cbhome.htm
Computer History Project at Uppsala University
http://gn.update.uu.se:70/1/chp

Magazines
Analytical Engine
ftp.batnet.com /pub/wombats/CHAC/ftp/pub
IEEE Annals of the History of Computing
http://info.computer.org:80/pubs/annals/annals.htm

Places to visit
The Computer Museum (Boston)
The Museum of Science and Technology (Ottawa)
The Science Museum (South Kensington, London)
IBM Research Lobby (Yorktown Heights, NY)

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PVT/M IDX 120	$2912	$3069	$3336

ULTINET NOTEBOOK FEATURES

	PVT/M	Pentimedia
CPU Options & Landmark Speed	E 75 460 MHz E 100 420 MHz P-120 436 MHz	P-75 436 MHz P 100 420 MHz P-100 435 MHz
base RAM	8 mb	8 mb
Max RAM	40 mb	64 mb
Local Bus Video RAM	1 mb	1 mb
Removable VLB HDD	Yes	Yes
Max HDD Size	1.3 GB	1.3 GB
Floppy Drive	1.44 mb High Density	1.44 mb Removable
Colour LCD Size	10.3"	11.3"
Colour LCD Res	640 x 480	640 x 480
Ext. SVGA Monitor	Simultaneous	Simultaneous
Max External Resolution	1024 x 768	1024 x 768
1 Parallel 1 Serial Ext. Video Ports	yes	yes
Two PCMCIA slots	Type II & III	Type II & III
SVGA, PCMCIA Drivers	Included	Included
Pointing Device	19 mm trackball	Trackpoint
Battery Type	NiMH	NiMH
Docking Chassis	Yes	Yes
MM Sound/Speaker/Mike	16-bit, built-in	16-bit, built-in
CD-ROM	external	built-in
Carry Case AC Adaptor	Included	Included
Dimensions (inches)	11.3 x 10 x 2.4	11.7 x 8.9 x 2.2
Battery Life (hrs)	2-4	Max. 8 hours

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The Computer Paper
December, 1995

from The Computer Paper, Dec 1995.

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Tests were done using PC Magazine Winbench 96 tests with Windows 3.1 and 100 MHz Pentium CPUs installed. The same video card/hard drive & memory were used for the comparison. The regular 256k async cache motherboard ran 25% faster than the one with writeback or dummy cache. Dummy cache was 2% faster compared to a board with no cache. Many suppliers use motherboards with write-back (dummy) cache. Always ask for motherboards with asynchronous or synchronous cache

PERFORMANCE BENCHMARKS

Generic Pentium TRITON motherboard 256k writeback (dummy) cache = 157
Ultinet Pentium TRITON motherboard 256k reg async industry standard = 196
Ultinet Pentium TRITON chipset motherboard, 256k sync pipeline burst cache = 223

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DX 133 Pentium	$3788	$3939	$4225

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PCMCIA SCSI adaptor	$380
PCMCIA 28.8 Fax/Ethernet 10BTCombo	$629
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External Quad Speed CD-ROM (parallel)	$405
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Cache	256k, 1 ins async dip cache exp to 512k
High Performance	Yes, Triton chipset on P 100 to P 150
Hard Drive & controller xfer mode	<11 ms, enh. xfe M4
HDD controller	PCI enhanced dual channel
Floppy Drive	1.44 mb
Low radiation/energy monitor	14" or 15" .28dp SVGA
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Enhanced keyboard & mouse	Win95 104 enhanced 400 dpi
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P-133, Pentium ® processor	$1735	$69/mth
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P 133, Pentium ® processor	$2120	$85/mth
P 150 Pentium ® processor	$2281	$91/mth
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P 100 Pentium ® processor	$2502	$100/mth
P 120 Pentium ® processor	$2583	$103/mth
P 133 Pentium ® processor	$2687	$108/mth
P 150 Pentium ® processor	$2849	$114/mth
P 166 Pentium ® processor	$3146	$126/mth
P Pro 150 Pentium ® processor	$3723	$149/mth
Upgrade 4xCD-ROM to 8xCD_ROM		$70
ATI Mach 64 2 mb DRAM to Matrox Millenium 2 mb WRAM (OEM)		$207

POWER PLUS PACKAGE **ADD $264**
Incl 512k pipline cache 8xCD-ROM 160W premium speakers, Wintrack 95 keyboard (trackball productivity at your fingertips)

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8 to 16 mb RAM on DX with Pentium ® processor	$153
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1.08 GB IDE to HDD 1.1 GB/2 GB/4 GB SCSI	$135/420/1148
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Upgrade to Wintrack 95 keyboard w/ built-in trackball	$65
Upg. regular 16-bit to WaveTable 32 Voice sound card	$65
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Adaptec 2940 PCI SCSI controller with cable and software	$275
15" to Mag DX15/95 15" .26dp NI UVGA monitor	$125
15" to Mag DX15T 17" .26dp NI UVGA monitor	$225
15" to Sony 15" 15SF8 .25dp NI UVGA monitor	$318
15" to Mag DX17/95 17" .26dp NI UVGA monitor	$580
15" to Mag DX17T 17" .26dp NI UVGA monitor	$728
1 mb PCI video to ATI Mach 64 1 mb DRAM (OEM)	$93
1 mb PCI Video to ATI Mach 64 2 mb DRAM (OEM)	$143
ATI Mach 64 1 mb DRAM to Matrox Millenium 2 mb WRAM (OEM)	$257

MIDTOWER SYSTEM ADD ONS:

MS-DOS 6.22/Win 3.1/Win 95	$59/99/135
MS Home bundle (Encarta Works Entertainment, etc.)	$118
Generic 14.4 voice/fax/modem / Generic 28.8 F/M	$79/190
Generic 28.8 voice/fax/modem	$210
USR 14.4 fax/modem / USR 28.8 fax/modem	$145/288
Cardinal 14.4 voice/fax/modem / 28.8 voice/fax/modem	$145/254
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GENEALOGY

Family ties

Software helps amateur genealogists dig into their past

BY JEAN ALLEN IKESON

Some say Alex Haley's book *Roots* which was made into a popular mini series, helped ignite the current genealogy craze Others suggest that in a society where many families are scattered across a continent or two it is only natural that we begin to look back to feel "connected "

Whatever the source it could not have happened at a better time as computer innovators are now creating tools to help families dig into their past

Resources abound

Genealogy software is my favorite home application It is ideal for storing and sorting information on your roots. Massive amounts of searchable census and record data are now stored on CD-ROMs, which are inexpensive and easy to use.

Genealogy has been waiting for the computer age, and genealogists have recognized the possibilities and responded with hundreds of programs and utilities.

In picking a program think about what you are willing to spend and how deeply you anticipate getting into genealogy

But beware there is something addictive about finding great-great grandmother's name in a book published in 1860 that lists the accomplishments (good and bad) of her grandparents and adds ancestors backwards for 200 or 300 years with tales of their deeds "

The programs

In this overview of genealogy software I have tried to include programs available in Canada I have also included some programs that must be ordered from the United States but which are considered to be among the best by roots enthusiasts or are the most popular Programs for DOS Windows and Macintosh are described

Ancestor Research Tool

I reviewed the demo version of this program by Everton Publishers one of the biggest names in genealogy publishing, and found it to be an adequate basic program with better-than average space for notes. However, it does not have many of the bells and whistles common to other Windows programs, such

Continued on page 22

Infonet Computer Systems

505 Hood Road, Unit 13, Markham, Ontario, L3R 5V6 Fax: (905) 305 6807 Tel: (905) 305 0656

PENTIUM EXOTIC MACHINE
P-120 .... $2,825
P-133 .... $2,935
P-150 .... $3,125
P-166 .... $3,495
ASUS Triton Pentium PCI Motherboard
w/256K Syn. Pipeline Burst Cache
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SEAGATE 2.0Gb EIDE Hard Disk
PANASONIC 1.44M Floppy drive
ATI Mach64 2M DRAM MPEG ready video card
MAG 15" DX 15T Trinitron, .28dp, NI monitor
6X IDE CD-ROM Large 115W amplifier speakers
CREATIVE LAB SB-AWE32 Value sound card
MITSUMI 104 Enhanced keyboard
MICROSOFT J/LOGITECH mouse
Pre-loaded Win 95' or DOS+Win3.11

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P-75 .... $1,825
P-100 .... $1,950
P-120 .... $2,050
Triton PCI Pentium Motherboard
w/256K Syn Pipeline Burst Cache
Built-in EIDE controller interfaces
8Mb of EDO RAM memory
WESTERN DIGITAL 1.08Gb EIDE Hard Disk
PANASONIC 1.44M Floppy drive
S3 Trio64 1M (exp. 2M) MPEG ready video card
DAYTEK 15" .28dp NI, L.R., OSD monitor
4X IDE CD-ROM, Creative Lab SB-16 sound card
Medium amplifier speakers w/adapter
MITSUMI 104 Enhanced keyboard
MICROSOFT J/LOGITECH mouse
Pre-loaded Win 95' or DOS+Win3.11

486 EXOTIC PCI MACHINE
P75-100 .... $1,625
PCI Motherboard w/256K cache
Built-in EIDE controller interfaces
8Mb of RAM memory
CONNER 1.08G EIDE Hard drive
PANASONIC 1.44M Floppy drive
S3 Trio64 1M DRAM PCI MPEG ready video card
DAYTEK 15" .28dp, NI monitor
104 Enhanced keyboard, MS comp. mouse
4X CD-ROM, small amplifier speakers
CREATIVE LAB. SB-16 sound card
Pre-loaded Win 95 or DOS+Win3.11
Upgrade 8X Multi-media Kit for $149
ACER 8X IDE Internal CD-ROM
Creative Lab Sound Blaster AWE-32
115W amplifier speakers
Components' brand may be changed subjected to stock

HARD DRIVES	
WESTERN DIGITAL Cavier	
850M 64K cache	$259
1 08G 128K cache	$289
1 2G 64K cache	$319
1.6G 128K cache	$419
QUANTUM Fireball	
1 2 G 256K cache	$315
SEAGATE Decathlon	
1 08G 256K cache	$295
2 0G 256K cache	$499

GRAPHICS ACCELERATORS	
ATI Mach64 (MPEG ready)	
WinBoost 1M DRAM PCI	$169
WinBoost 2M DRAM PCI	$238
WinTurbo 2M VRAM PCI	$325
S3 Trio64 (MPEG ready)	
1M DRAM (exp. 2M) PCI	$129
DIAMDND Stealth64	
2M VRAM CD-i/MPEG	$345
MATRDX	
Millennium 2M WRAM PCI	$Call

CD RETAIL PACK	
DIAMDND 8X CD PACK	$519
QUEST 4X CD PACK	$348
ZDLTRIX 4X CD PACK	$299

MODEMS	
US ROBDTICS	
28.8K Sportster int.	$259
28.8K Sportster VI	$279
28.8K Sportster ext.	$279
MDTDRDLA	
28.8K LifeStyle int	$229
28.8K LifeStyle ext	$249
CARDINAL	
28.8K Int.	$185
28.8K int w/Voice	$245
28.8K ext.	$225
GVC	
14.4K ext. w/Voice	$119
28.8K Int.	$199
28.8K ext.	$229
RADICDM	
14.4K Int w/Voice	$ 68
28.8K Int. w/Voice	$199

CD-ROM DRIVES	
SONY	
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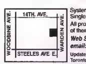
Quad speed (4X)	$ 89
ACE	
Quad speed (4X)	$ 99
Hex speed (8X)	$139
PANASONIC	
Quad speed (4X)	$109
TDSHIBA	
Quad speed (4X)	$118
MITSUMI	
Hex speed (8X)	$189
TEAC	
Hex speed (8X)	$219

SOUND CARDS	
SB16 Compatable	$69
CREATIVE LAB.	
Sound Blaster 16 Value	$109
Sound Blaster AWE-32	$139

MONITORS	
DAYTEK	
14"/15" .28, NI	$315/435
15"/17" .28, NI digital	$475/805
MAG INNDVATION	
15" DX-1595 .28, NI	$539
17" DX-1795 .26, NI	$1028
15"/17" Trinitron .28	$649/1109



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Family ties

Continued from page **20**

as graphics import kinship calculator and a label maker. It does contain numerous extra fields for biographical data. It requires Windows 3.1, 4 MB RAM, 1.7 MB free hard-disk space and a 386 or better. It sells for US$59.50.

Contact: Everton Publishers 800-443-6325

Brother's Keeper 5.2
This DOS program, which is available in English, French, Danish, German, Norwegian, Polish and Dutch, is an old favorite. It can be downloaded in a simple form from many genealogy bulletin boards as shareware.

The full version of the program, including a manual, can be purchased from its developer, John Steed, for US$45. While the output from this program is not very sophisticated, Brother's Keeper will generate a large variety of reports. The program will attach .pcx files to individuals but will not print them. Another advantage is that it will run on a 286 with 510K RAM. The program is revised annually. A beta copy of the Windows version under development is available in the Roots Forum under the file name "bksetup.exe."

Contact: John Steed 616-866-9422 (8-10p.m. EST only)

Family Origins 4.0
A more than adequate and easy-to-use Windows program, Family Origins will print scanned photos or documents. It contains one of the better report generators for missing, inconsistent or duplicate records. It also accepts unlimited individuals and sources.

This program requires an IBM-compatible computer with 4 MB RAM and 2 MB hard drive space. A DOS version is also available. It is sold by Parsons and is distributed in Canada. It sells for $34.99.

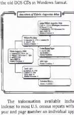
An interesting companion program from Parsons is Family Atlas. The atlas can import GEDCOM files to generate maps of family migration, which may be printed in color. Unfortunately it primarily plots migration in the U.S., but the idea is a good one.

Contact: Parson's 800-223 8925

Family Ties 4.0
Family Ties is very simple to use, a good program for novice genealogists who are a bit frightened of computers. It looks like, feels like — and is priced like — an economy version of Family Tree Maker (the manual even suggests using FTM for printing fancier trees). Family Ties is available from Individual Software and is distributed in Canada. It sells for $24.99. The program requires Windows 3.1 or better, 4 MB RAM (8 recommended) and 5 MB hard-disk space.

Contact: Individual Software 800-331-3313

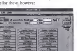
Family Tree Maker
This program is a full-featured genealogy recording and reporting program and research tool. FTM 3.0 on CD comes with an index to all the genealogy research CDs originally produced by Automated Archives, which was acquired by Banner Blue Software in 1994, and was recently acquired by Broderbund. The latter two companies have developed new CDs and reorganized most of the old DOS CDs in Windows format.



The information available includes indexes to most U.S. census reports with the year and page number an individual appears on, a couple of Irish census years from the early 1800s, and CDs with family trees or GEDCOM files for a wide range of people, mostly American but with a steadily rising number of Canadians and Europeans. If you have American ancestors, this is a must-buy. The first two volumes of the World Family Tree CD series contain thousands of GEDCOMs, including the names of 46,000 Canadians and 250,000 Europeans. These have helped me extend trees for several ancestors from 1800 in the U.S. back to the 1500s in England and France.

At this writing, there is no way to contact submitters directly via Broderbund, but supposedly they plan to include that data in future versions. In the meantime, a database of submitters is available on the World Wide Web at http://www.wp.com/ehuffman (the GEDCOMs are keyed by number).

If you do not have American ancestors you may be paying for features you can't use. The one exception is that FTM has the prettiest printouts and most powerful choice of features for generating ancestor and descendant trees. It is also easy to use. Every event, such as places, dates or names on the screen, may have a source note attached to it (accessed by pulling down "source" on the menu, which can be tedious). There is no pre-formatted style for these, however.



Family Tree Maker requires Windows 3.1 or Windows 95, 386 or better, 4 MB RAM (8 recommended), VGA display, CD-ROM drive and 9 MB free hard-drive space. It sells for about $69. It is also available in diskette version without the Family Finder Index to census material etc. and without the genealogy How-to guide.

A companion program to FTM called Biography Maker will produce a "script" with writing ideas to get you started. It sells for $29.99. Both are distributed in Canada or can be ordered directly from Broderbund.

Contact: Broderbund 415-382-4400

Lifestyles Family Genealogy
This is a minimal program that is not particularly easy to use. However, if cost is a consideration, the price is very low. The manual is on disk in the form of Help files. It requires an IBM-compatible computer with Windows 3.1 and a hard drive. It is distributed in Canada or can be ordered from Lifestyles. It sells for about $15.

Contact: Lifestyles 804-825-0220

The Master Genealogist 1.2 (DOS)
This program is a favorite among experienced

Continued on page **24**

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*Continued from page **13***

IBM launches OS/2 Warp Server
IBM Canada has unveiled its new OS/2 Warp Server with broad support including OS/2 DOS Windows NT 95 3.x and AIX

Macintosh client support can be obtained through an add-on Gateways to Novell Netware, Microsoft Windows NT and LAN Manager are also supported

The server comes with an impressive set of features to ease the network management load

IBM's OS/2 Warp Server appears to be a tough competitor for Windows NT Server and in several areas, such as network interoperability actually looks more capable than the current Windows NT Server.

IBM is aiming the new product at clients from the small business up to the enterprise level Company representatives say they intend to leverage IBM's deep fund of expertise with high-availability, secure mainframe technology to provide the most reliable solutions for the current and future client-server environment

IBM also recently announced a wide range of solutions to tie PC servers to the Internet, to offer global connectivity for businesses

"Almost overnight customers have seen the need to expand the reach and range of their PC server networks according to Michael Coleman general manager of IBM's PC and server division. "We're announcing a collection of solutions that will link IBM PC servers to the Internet What's more, IBM is making these PC Servers work in the real world by making it possible for customers to manage their LANs across the Internet from any PC or workstation with a Web browser."

Related to the server announcement, IBM also confirmed its commitment to the OS/2 Warp product line revealing its plan to invest more than $300 million in research and development in 1996

Contact www.ibm.com

Disney Canada becoming major force in entertainment software
A flurry of new CD ROM titles from Disney Interactive the software publishing arm of the Walt Disney Company, has suddenly made the line the top seller in the American educational software market, edging out traditional leaders such as Broderbund/Living Books, Davidson, and The Learning Company

Disney's Canadian operation is also growing rapidly hiring new marketing staff, and meeting a high Canadian demand for CD ROM spin-offs based on popular animated films

All the Disney titles are of uniformly high quality with superb graphics, animation and music.

The characters and situations are familiar to most kids, and there are elements of both fun and learning in all the titles Unlike an earlier fiasco with a bug ridden Lion King game last year all the new titles installed and ran perfectly

Disney's efforts in computer-game publishing have been marked by sporadic success followed by periods in which the company appeared to lose interest in the software market According to Canadian Disney representatives the company is back in the software market for the long haul, and intends to become the standard by which other "edutainment" software is judged

Contact: Walt Disney Company (Canada) 800 668-4835 www.disney.com

Sega enters PC game software market
Sega of Canada is taking aim at the lucrative PC gamer software market with CD-ROM versions of some of its most popular Sega Genesis games titles.

One of the first releases is Comix Zone a humorous fast paced adventure game where the player assumes the role of a comic book artist who has been sucked into a comic strip, and has to defeat a seemingly endless array of comic strip opponents

Also released are Ecco the Dolphin and Tomcat Alley two other popular Sega titles

Although Sega claims to lead its archrival Nintendo in terms of dollar sales in 1995 Nintendo of Canada claims its hardware still outsold the new 32 bit games machines such as the Sony Playstation and Sega Saturn, by a factor of seven to one last year.

Nintendo also sold more than 1 5 million units of 16-bit games software in Canada in 1995 With the release of Nintendo's Ultra 64 games machine imminent all the major "next generation" video games hardware makers (Sony 3DO and Sega) are poised to fight it out with Windows PCs for the lucrative Canadian games software market in 1996.

Contact: www.segaoa.com

Monkey business Educational CD ROM ready for primate time
The Multimedia Guide to the Non-Human Primates, by Frances Burton with programming and design by Matthew Eaton is a multimedia guide to apes new and old world monkeys and prosimians (such as lemurs)

The guide, consisting of a users' book and a CD-ROM, is intended as a teaching aid and reference resource for secondary or university courses dealing with primates

Dozens of primate species are listed, with pictures, maps of their natural range and notes on their characteristics both physical and behavioral This title is all business — as the interactive equivalent of a textbook, it educates rather than "edutains"

The user interface is well laid out and simple to use and the information is presented clearly and effectively

The guide was authored using Macromedia director, and comes with QuickTime for Windows 2 for playing video clips Altogether, it is a very visually appealing thorough and interesting presentation of the other primates with which we humans share the Earth, and is ideal for classroom or library use. List price, $77 95

Contact: Prentice-Hall Canada Inc., 416 293-3621 www.prenhall.com

Consumer virtual reality glasses bring you into the game
Stereographics Corp has announced its new Simuleyes 3D glasses, which use liquid crystal shutter technology

The glasses, which are listed at US$179, allow the user to have a more realistic interaction with computer games that simulate 3D environments

The glasses are lightweight and require no special interface for installation (up to four sets of glasses can be hooked up to an external control box for multiplayer games)

The glasses come with a version of Descent Destination Saturn from Interplay, a popular 3D game Stereographics claims that more than 60 games developers have joined its developer program to produce Simuleyes compatible titles

Contact: Stereographics Corp., 800-746-3937, www.stereographics.com

Snapshots meet digital science
Kodak introduced the DC50 Zoom Camera on January 16 1996 The camera uses a motor-driven zoom lens equivalent to a standard 35 mm lens Other features include automatic focus, exposure control and CCD image sensor that gives resolutions of 756 x 504 pixels with 24-bit color It comes with 1 MB permanent internal memory and supports PCMCIA ATA-compatible removable storage cards The camera comes with all the cables and software required to use it on either the Windows or Macintosh platform The shell of the Kodak digital science DC50 is the same as the Chinon ES-3000 which The Computer Paper uses to capture product shots people and event highlights Although Chinon produces the camera for Kodak, the DC50 has several modifications over the ES 3000 such as an improved CCD that makes it a slightly better device Notably, the camera includes Photoenhancer which allows for basic image manipulation and allows pictures to be saved in several popular image formats The pictures when downloaded from the camera, are stored in a Kodak picture format which takes considerably less space (around 100k for the highest resolution) than saving to more popular formats like TIF or JPG They can later be expanded into a variety of other formats for editing and viewing in other applications

The Canadian suggested list price for the DC50 is $1495 The addition of this new camera to Kodak's line has driven down the pricing of the company's previous entry-level digital offering, the DC40 from a suggested list of $1345 to $995

Contact 800-465-6325 ext. 36100 www.kodak.com

Computer solutions for small business

On March 11, 1996 Hewlett Packard announced a new computer line and networking equipment specifically targeted at small businesses Janice Keay, HP's program manager for desktop PCs notes that companies with less than 100 employees represent 20-25 % of the PC market and that this is the fastest growing segment of the business PC market HP is targeting these businesses with a line of computer products that puts emphasis on reliability, support communications and ease of use. The new HP Vectra series 500 computers come in a wide range of configurations ranging from the base model, 510 5/75 desktop sporting a Pentium 75 MHz processor 8 MB of RAM and a 630 MB hard disk with a manufacturer's suggested list price of $2010 to the current state of the art Pentium 166 MHz machine equipped with 16 MB RAM 1 6 GB hard disk quad speed CD-ROM and a 28 8 kbps voice/faxmodem with a manufacturer's suggested list price of $4668

Contact: 800-387-3867 www.hp.com

Lexmark SOHO Laser
The compact Optra E is Lexmark's newest entry into the affordable business class laser printer market The Optra E comes in two versions – a base model and a model with a 1 MB flash memory card to store forms fonts logos, page headers and other often used printables directly in the printer It has a sharp 600 x 600 dpi resolution and comes standard with 1 MB of memory expandable to 5 MB and a 150 sheet front input which can handle letter and legal-sized paper The print driver uses the PC to rasterize the image and allows the Optra E to print a full page of graphics with its standard complement of memory This printer has a lot going for it, It's compact and light with good print speeds of 6 ppm through its RISC processor The suggested list of $799 makes it an attractive laser for home or business

Contact: 800-891-0331 www.lexmark.com

Motorola Increases Presence in Modem Market, Launches ISDN BitSURFR
Motorola one of the leading manufacturers of computer processor chips (such as the Power PC) and telecommunications products such as cellular phones, has released a line of high performance, professional class personal computer modems, including the Motorola BitSURFR Pro, an ISDN modem capable of 128 000 bps data throughput (or faster with data compression) The BitSURFR Pro comes complete with an ISDN cable and software, with a suggested price of $695, and has a 5 year warranty As well Motorola has a Motorola 28 8 PCMCIA (PC Card) Modem/fax for $460 and the Motorola Online SURFR external 28 8 kbps modem for $433

Contact Motorola ISG 800-356-6394, www.mot.com

Mobile Multimedia The Altec Lansing Portable Multimedia CD ROM Centre
Altec Lansing, has released a light (4 5 lb), compact (2" x 12" x 9") multimedia add-on box, designed to easily allow notebook PC users to add audio and CD ROM capabilities to their notebooks The unit features a double speed CD-ROM drive, Sound Blaster compatible 16 bit sound, and built in stereo sound speakers all in a rugged easy to install package The AMC2000 connects to a notebook via a PCMCIA (PC Card) Type II card and interface cable.

Contact: 800-648-6663

What's New is compiled by Jeff Evans, Chris Fisher and Keith Schengili-Roberts in Toronto, and Graeme Bennett, Megan Johnston and David Tanaka in Vancouver

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–*PC Computing, 3/96*

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Dell's featured computer artist is Merin Manzano of San Francisco, CA.

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Family ties

*Continued from page **22***

and dedicated genealogists because of its exceptional note and source/reference features. It is not the easiest to use, though there are pull-down menus. The lack of ease of use is due to the large number of features. It is a bit like dBASE (but easier) in that if you use it frequently, you will appreciate its power and elegance; however if you use it infrequently you may spend some time reading the manual to refresh your memory.

An integrated correspondence log may prove useful in tracking your requests for official documents and letters to other genealogists. The quality of family tree print outs is above average and the text outline descendancy report may be formatted to several large genealogical group styles.

One really useful feature is a built-in spell check that includes surnames, geographic place names (mostly U.S.) and common expressions. Wholly Genes, the makers of TMG, provide excellent backup and are active on forums such as Compuserve's "Gensup" and with user groups.

TMG requires a 386SX or better, 3 MB extended or expanded RAM, hard drive with 3 MB free and MS DOS 4.0 or higher. A Windows version of TMG is being beta tested. It is available directly from Wholly Genes and sells for US$99.

Contact: Wholly Genes 800-982-2103 or 818-998-2575

My Family Tree 1.5

This is another skimpy but inexpensive program. A major disadvantage of My Family Tree is that only 1,000 individuals or 500 families can be included per database. A companion program called Picture Album may be purchased from the maker DSR, Inc. A GEDCOM Interface Utility must be purchased to import files from other researchers (US$9.95). You may also buy a Family Viewer utility (US$5), which can be copied repeatedly and sent to others with your database file. The utility allows them to read the data and print all the charts. My Family Tree requires a 386SX or better with 2 MB RAM, 2 MB free hard-disk space and VGA monitor. It is distributed in Canada and can be ordered from DSR.

Contact: DSR 800-455-4377

Personal Ancestral File 2.31 (DOS)

This program, developed by the Family History Department of the Church of Jesus Christ of Latter-day Saints, is one of the clas

➤

Genealogy software essentials

Here are some features to look out for when buying genealogy software.

GEDCOM compliance

One of the best features on the most popular programs is GEDCOM compliance. GEDCOM is a standard that allows the transfer of data between different platforms and programs and maintains basic formatting, such as names, dates, links, etc.

I recently sent a GEDCOM file to my cousin via e-mail. It was generated in a Windows program and seamlessly incorporated into a different program on a Macintosh computer.

Genealogy enthusiasts are avid traders and sharers of information, so this feature is essential. Don't leave the store without it.

Output features

Once you have slaved over census records on microfiche, you will want to print a family tree that is nice enough to bore your friends and impress your in-laws. So look for a program that offers a variety of charts, allows you to customize page elements such as fonts, page size, etc., and will legibly print the largest number of generations on a single page. Some of the cheapies don't offer much more than a rough diagram of names.

Usability

Another consideration is how easy the program is to use. Sounds like a simple concept, but when you are trying to sort out why Mary is called Polly on the marriage records or could Polly really be the husband's mother Polly but the dates are all wrong, then using an intuitive program makes sense. It's genealogy you are interested in, not the programming logic in arranging items in a menu or function button.

Some programs link generations together so that you can easily scroll up and down to add data. Others require you to remember a tag applied to each individual. Pick a program in which most of the functions are fairly intuitive so you don't have to constantly reach for the manual.

One function that experienced genealogists demand is space for referencing sources. Did Great Aunt Amelia's marriage date come from a book, actual records, or grandmother's memory? Meticulous adherence to sources will save time later on. Dates and names are a priority when you start your research, but it won't take long before you want to include information like professions, places lived in, medical history and family stories. So it is important to keep track of sources so you can return to them to look for this added information.

Other hot features

The best programs make it easy to add step relatives, additional spouses, adoptees etc., and tag them as such. Teenagers or adults from families that have split may find genealogy a comfortable way to re-connect what seems to be a shattered family.

One hot new feature is the ability to incorporate scanned photos, documents or maps so that a database can lead to or provide the skeleton of a family biography.

Other bells and whistles you might consider are "relationship calculators." If you know what a third cousin twice removed is, the program could provide you with a list of these. In the same vein, aging baby boomers may want to figure out their family's average life expectancy.

Another appealing feature is a function that automatically generates a list of inconsistencies and incomplete records. The former is especially important when you merge outside GEDCOM files with your own. A spell check for places and names is also a good tool.

Once you get into your roots, you are likely to discover unknown cousins, huge family reunions and family or clan genealogists. So it is valuable to be able to generate a mailing list and labels to share the information with other descendants. ❑

sics. Members of this church, commonly known as Mormons, are particularly interested in developing extensive family genealogies for religious reasons. As a result, many LDS churches include a family history library and make available to the general public large amounts of census and cemetery data and submitted family genealogies. The Family History Department organized the first genealogy software conference, with more than 20 other program developers, to come up with the GEDCOM standard.

PAF presents users with lists of choices such as edit, add, print a report, etc. rather than pull-down menus in the DOS version. It is simpler than it sounds and the program prompts are very good. Extra features can be found on many genealogy BBSs. The PAF manual is excellent and local support is often available from LDS libraries.

The best news for those with older computers is that PAF will run on a 286 with 640K of RAM, a hard drive and DOS 3.3 or above. It is also available as a Macintosh version which requires at least a Mac 512, 512e, Plus, SE, or II, two single sided disk drives or one double-sided drive and 512K memory. PAF can be ordered directly from the LDS Church in Salt Lake City. Versions for DOS or Mac sell for US$35.

Contact: Church of Jesus Christ of Latter-Day Saints
Salt Lake City, Utah: 800-537-5950

Personal Roots
Definitely a no brainer to use, this program is widely available and inexpensive. It lacks some of the features of more expensive programs, but its companion program, Family Album, allows users to create a family history album with scanned photos or documents that may be edited in the program. It supports a long list of graphic file types. Personal Roots requires Window 3.1 or Windows 95, 386DX or better, VGA monitor, 4 MB RAM (8 recommended) and 6 MB free hard-disk space. It is distributed in Canada and can be ordered directly from Expert Software. It sells for about $17.99.

Contact: Expert Software 305-567-9990

Reunion
This is one of the better known high-end programs and is available in Mac and Windows versions. It is easy to use, has a super manual and good support. Only the Mac version accepts Kodak Photo CDs. A word processor is needed for some reports, as the program searches your hard drive for a suitable application to which it will export large text reports. I was able to flawlessly transfer a GEDCOM from Family Tree Maker (Windows) to the Mac version of Reunion via Compuserve.

Mac or Windows users should be satisfied with this program. The new version (5.0) will offer hypertext markup language (HTML) output for Web site use.

The Windows version requires a 386 or better with VGA or better, Windows 3.1 or Windows 95, 2 MB RAM, hard drive and mouse. The Mac version needs System 7.0 or better and 4 MB RAM.

It is available from only a few dealers in Canada (see contacts) and can be ordered directly from Leister Productions. Its estimated street price is $145.

Contacts: Softsource, Calgary 403-297-1628
CompuSmart, Edmonton 403-429-4388
WestWorld, Edmonton 403-453-9366
Elm St. Computer, Toronto 416-591-6684
Light Computer Centre 905-524-1912
Leister Productions 717-697-1378 or on the Web at http://www.LeisterPro.com

Roots IV
I reviewed a demo version of this DOS program and found it relatively easy to use with many professional-quality features for notes and source material. It offers an unlimited number of references for each entry and prelists a number of medical conditions to choose from for each individual. Because I only had access to a demo of this product (but a full version of Visual Roots) I was unable to rate it for duplicate, missing or inconsistent reports, or the quality of the manual.

The program has been in existence for a number of years and has been improved through the four versions. A 140,000 word spell check with 10,000 surnames has been added to the just released Roots IV 1.2 update. This program also allows users to create a family history home page for view by anyone with access to the World Wide Web. This is likely to become a common feature of genealogy software. A sample can be viewed at www.sonic.net/~commsoft/family.html

This program requires a 386SX or better, MS DOS, 4 MB RAM, 10 MB hard-disk space for the program and 5 MB for each 1,000 individuals. (Commsoft says it will run on a 286.) It is available directly from Commsoft for US$129 or as an upgrade from a competitor at $US99. To get a free demo disk in Canada, try Researchguild Associates or Braun Genealogy and Publishing.

Contact: Commsoft 800-327-6687
Researchguild Associates 416-694-3833
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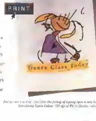

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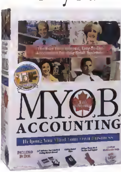

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Visual Roots

This program is a full-featured Windows program from Commsoft, the makers of Roots IV for DOS. As with Roots, the setup for notes and medical information is second to none. Visual Roots provides powerful book-publishing and reporting features such as table of contents, etc. A Twain-compliant scanner can be used to scan directly into this program, a useful feature for photos or for copying original deeds, wills, marriage certificates, etc. directly into a family story.

Visual Roots will run on a 386 with 8 MB RAM, Windows 3.1 and needs 20 MB hard-disk space. It is available directly from Commsoft or from the Canadian contacts listed for Roots IV. It sells for $US59.95. ❑

Resources in print

The genealogy computing trend has given life to several suppliers of genealogical material and some good print resources. Here are a few:

Genealogical Computing magazine is devoted to reviews and discusses all aspects of computerized genealogical research. A subscription is US$25; call 801 531 1790.

In Search of Your Canadian Roots, by Angus Baxter, published by Macmillan Canada, 350 pages.

Genealogy in Ontario: Searching the Records, by Brenda Dougall, published by [illegible], 184 pages.

Genealogy Online: Researching Your Roots by Elizabeth Powell Crowe, published in 1995 by Windcrest, an imprint of McGraw-Hill, [illegible] price $41. This book comes with [illegible] copy of Brother's Keeper [illegible]

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GENEALOGY SOFTWARE COMPARISON

PROGRAM	Ancestral Research Tool	Brother's Keeper	Family Origins	Family Ties	Family Tree Maker	Lifestyle's Family Genealogy	The Master Genealogist	My Family Tree	Personal Ancestral File	Personal Roots	Reunion	Roots IV	Visual Roots
Format	Win	DOS	Win	Win	Win/CD	Win	DOS	Win	DOS/Mac	WIN	Mac/Win	DOS	Win
Manual	NA	2	3	4	5	1	4+	2	5	2	5	NA	5
Ease of Use	3	3	5	5	5	1	3	2	3	5	5	4	4
Ancestor Tree	3	3	4	4	5	2	4	3	3	3	4	3+	4
Descendant Outline	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	yes
Ahnentafel Numbers	yes	yes	yes	no	yes	yes	yes	no	yes	no	yes	yes	yes
Notes	4	2	4	3	3	2	5	3	3	3	5	5+	5
Sources/References	2	2	4	no	3+	no	5+	no	4	no	3	5	4+
Medical	2	no	no	no	3	no	3	no	no	2	3	5	5
Duplicate, Missing Info Report	NA	2	4	2	4	1	3	2	3	4	2	3	2
Relationship/Kinship	no	yes	yes	no	yes	no	yes	no	yes	no	yes	NA	yes
Mailing Labels	no	yes	no	no	yes	yes	no	no	no	yes	yes	NA	yes
Photos/Scans	no	at'l	yes	yes	yes	yes	yes	yes	no	yes	yes	yes	yes
Kodak PhotoCD	no	no	no	yes	yes	no	no	no	no	no	no	no	yes

The accompanying Features Chart with ratings provides a summary and comparison of the programs' main features. A rating of "1" means the feature is poor or partially present, "3" is adequate or average, and "5" is applied when the feature is exceptional in depth or quality or options. For example, a "2" for Sources (references such as census material, genealogy book, GEDCOM from an individual, etc.) is given because there is minimal space or "report generation" for source material. A "5" means there is a professional bibliography formatting box which preformats references and these sources may be added to record sheets as footnotes or in a biography as footnotes automatically. There would be extensive space available for sourcing every piece of information about a person. "Medical" information is included because genealogy programs are increasingly being used by medical researchers for tracking and recording disease or cause of death in families over generations. Some programs, such as Roots IV and Visual Roots, provide a preformatted list of "ailments." Others, such as The Master Genealogist, can be used if a field is customized with a "flag." Several programs simply have a field prenamed "medical" in which notes may be recorded. Text outline trees are items commonly shared through e-mail on the Internet. Often included on these is a special "ahnentafel" numbering system that designates each parent, grandparent, etc. The system is simple. The father is twice the child and the mother is the father's number plus one. Ahnentafel can be a useful for sending and organizing descendant trees in e-mail messages.

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CAD Workstation, P150 $3498

Intel PENTIUM 150MHz, ASUS Triton Pipeline 16MB EDO, 1.2GB HD, ATI Mach64 2MB, Floppy, Medium Tower, 17" Viewsonic Monitor, 6X CD, SB16, Speakers, Honeywell KB, Logitech Mouse, Windows 95

Graphics Workstation, P133 $2898

Intel PENTIUM 133MHz, ASUS Triton Pipeline 16MB EDO RAM, 1.2GB HD, ATI Mach64 2MB, Floppy, Mini Tower, 15" Princeton PnP Monitor, 6X CD, SB16, Speakers, Honeywell KB, Logitech Mouse, Windows 95

SCSI Workstation, P100 $2898

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Multimedia Plus, P100 $2388

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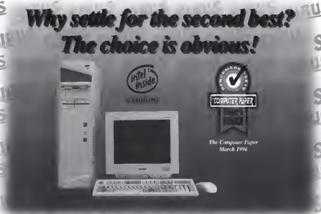

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Tracing your family online

Most of the larger online services such as Compuserve and America Online have genealogy forums (keyword genealogy) Compuserve s Roots Forum is the biggest and best known It contains a large message section subdivided into surnames, geographic regions computers/programs, how to obtain records and so on

The library has many useful files a how-to-search your roots file files on where to obtain source documents book reviews, GEDCOMs a 90-page review of PC genealogy programs, a smaller but equally useful Mac program review and reviews of programs for many other platforms, shareware programs and demos of commercial products.

The library is so large that it is best to download and print out a file index The vast majority of people who leave messages are helpful and generous with information, resources and ideas

There is also a forum called Gensup short for genealogy support forum look there for a direct line to many genealogy software companies (Broderbund has its own bbforum)

Home grown forums

Canadians also have their own set of home-grown bulletin boards devoted solely to genealogy (Yes genealogy is that popular!) I spoke to a sysop for Kintracers the genealogy BBS associated with the Ontario Genealogical Society Kintracers currently has about 500 users registered and logs about 50 to 70 calls a day

One of the more interesting files they will share is an index to the 1871 Ontario census for heads of households and "strays" (roomers and boarders) Another is a guide to the individuals buried in Ontario cemeteries. The fifth version of this guide will exceed one million names

Through Kintracers information about many genealogical conferences is available using the Fidonet including the Canadian Genealogy Conference, National Genealogical Conference and an Ireland and UK conference There is no charge to use the BBS

For a complete listing of BBSs carrying FidoNet, try the National Genealogical Society in Arlington VA and look for Dick Pence's list called GBBSmmyy.ZIP (Mmyy is the code for the month and year in which the file has been compiled)

A wealth of Web sites

The World Wide Web is mushrooming with genealogy sites Many offer links to other sites It is worthwhile to do a search for the keywords genealogy genealogical family history and roots One of my favorite sites is an online bookstore with 8 500 genealogical titles that may be searched (see contacts)

The Ontario Genealogical Society has a great home page with links to societies such as the Genealogical Association of Nova Scotia New Brunswick Genealogical Information and the Newfoundland and Labrador Genealogical Society As well other sites are linked such as Quebec Genealogy (Eastern townships) Acadian Genealogy UK Irish and Scottish sites Australian German National Genealogical Society New England Historic Genealogical Society etc

Other sites that are loaded with useful information are the Genealogy Home Page the Helms Genealogy Toolbox the Roots L site (which contains a library surname researcher lists, Irish Canadian Immigrants database, and a location list of special interest to researchers) and the Everton site (which contains a computerized "roots cellar" family file genealogical dictionary GEDSRCH, 1871 Ontario census links to genealogical software worldwide and a shareware copy of Everton's Ancestor Research Tool) — *JA-I*

BBS contacts

Kintracers 416-750-9717

Calgary Generations (Kathi Crockett) 403-251-5640

Quebec Genealogy Online (Ken Quinn) 514 768-1986

National Genealogical Society 703-528-2612

Web contacts

Ontario Genealogical Society

http://www.interlog.com/~dreed/ogs home.html

Genealogy Home Page

http://ftp.cac.psu.edu/~saw/genealogy.html

Helms Genealogy Toolbox:

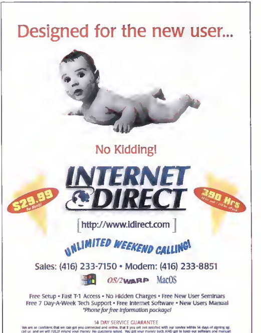
http://aries.stu.uiuc.edu/helms/genealogy.html

Roots-L http://www.genealogy.com/roots-l

Everton

http://www.everton.com/

Genealogy books http://www.genealogy.com/blars



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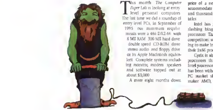
Big bang, for small bucks:

The fastest entry-level PCs ever

BY CHRIS FISHER WITH STEVE MALINDA



This month *The Computer Paper* Lab is looking at entry level personal computers The last time we did a roundup of entry level PCs, in September of 1995 our minimum require ments were a 486 DX2-66 with 8 MB RAM 300 MB hard drive double speed CD-ROM drive stereo audio and floppy drive or its Apple Macintosh equivalent Complete systems including monitor, modem speakers and software topped out at about $3,000

A mere eight months down the road a computer fitting those specifications is almost non-existent among major vendors Firstly the 486 is nowhere to be found. You might be able to get your hands on a hard disk around the 500 MB mark but finding anything less is next to impossible and the small price difference between quad and double speed CD-ROM drives has virtually driven the latter into extinction

Today's entry level systems cost less are considerably faster Pentium-class machines are fully ready to run with monitor included and can be found for not much over $1 600

Watch out for falling prices

Finally after more than a year of RAM prices hovering around the $50 per MB mark, we have finally seen big decreases Several people are citing expansions in production capacity as the main reason for this drop Others mention over-projection of consumer demand and excess inventory accumulation in 1995 due to speculation as factors contributing to this recent decrease in cost.

No matter what the cause the lower pricing has taken a significant chunk out of the price of a new computer just in time to accommodate memory-hungry Windows 95 and thousands of new multimedia CD-ROM titles

Intel has gone on an aggressive price-slashing binge on their Pentium line of processors This surely has to do with Intel's competitors such as Cyrix who are threatening to make inroads into the PC market with their 5x86 processors

Cyrix is also starting to ship 6x86 microprocessors that reportedly outperform an Intel processor at the same clock speeds. Intel has been without serious competition in the PC market since an earlier "clone" chip maker AMD, faltered badly and one must assume Intel's game plan includes further price reductions and faster processors not too far down the road

More changes to come

While it is inevitable that we will continue to see RAM costs drop, and faster and cheaper microprocessors over the long term, the current spate of price cuts in the cost of PC components has been staggering.

The industry seems quite confident in this short-term prediction, by mid year, the Pentium 100 will be the entry-level system of choice and by year's end we will probably be looking at 133 MHz machines at the entry level of the PC market The current rate of change and shorter product life cycles have me wondering what computers will look like two or three years from now and how we will interact with them

We are drawing close to an era where the hardware requirements for things such as natural language interaction and truly intelligent agents will be generally available and accessible Will the software industry be able to meet these thorny challenges? These are exciting times we live in

Thanks for the (faster) memories

EDO and pipeline burst cache have caught on in a big way A few months ago we saw these improved types of memory only in high-end systems Today pipeline burst cache is becoming standard in all systems and even EDO is cropping up at the entry level

Avoiding obsolescence

I mentioned this last month but it bears repeating If you are in the market for a Pentium, especially an entry level machine such as the Pentium 75 try to get your hands on a machine with a motherboard that will take a range of processor speeds This will leave you with a clear and simple path to greater computing speeds

Many of the motherboards in this review support processor speeds from 75 to 133 MHz and a few will support processors right up to 200 MHz. There are a few varieties of these motherboards. The one I'm currently using on my desktop supports Pentiums from 75 to 180 MHz. One should definitely look into this since it will not cost any more and may just pay off should you decide to upgrade down the road.

Another entry level system feature you will want to check is if it supports EDO and pipeline burst cache Both give a significant speed boost, many good motherboards support them and you may later find that you want to switch to these memory technologies

The captives

Entry level is a moving target at the moment as deep price reductions in processors and memory constantly raise the bar on what vendors are offering as their entry-level system

We asked the major Canadian vendors to send us the PCs from their current lineup that qualified as their entry level system. We asked that the systems come in at or under the $1 400 price tag (not including a monitor) For large brand name computers we made exceptions to this rule and settled for computers that fit an entry-level specification

A couple of the top-tier vendors are sadly

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TCP Test Labs Review Products

- AmPAQ P 133
- AST Bravo LC P/75
- Bondwell P 100
- Bondwell 5x86-100
- Comax P 75
- Comtex P 75
- Daiwa P 75
- Dell XPS P100c
- Express Micro P-75
- IPC P 75
- Micro Infiniti P 75
- Mynix Vantage P-75
- NEC Ready 9522
- Samtack P 75
- Sirus P-75
- STD CompuPartner P-75
- Tangent P 75
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Pentium 586 Systems
Pentium-166 $1697 Pentium-133 $1297
Pentium-150 $1477 Pentium-100 $1137
PC includes CPU Pipeline burst board 8Mb Ram IDE I/O, PCI video card/1Mb 850Mb HDD, 1 44 Mb FDD Mini Tower case/230w 104 Keyboard, Mouse
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14" Daewoo .28NI/Green/LR $320
15" Acer .28 NI/Green/LR $415
15" Daewoo .28NI/Dig/Green $436
17" .26/.28 NI/Dig/Green/LR $789
17" Mag 28NI/Dig/Green/LR $880

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586 to 686P-150 $897

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6x86P-150/fan $699

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1MB /VLB $79
1MB/PCI $89
ATI 64 card wit MPEG

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6x86 P-120 CPU/Fan $397
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Multimedia 586P-75 PC $1111
HP800C Color Printer $660
USR Fax 28.8 Ex. $309
Color Flat Bed Scanner $636
Intel 486DX2-66 CPU $49
Intel P-150 CPU $599
HP CD-Writer 4020I $1399
Sound blaster 32bit ide $155
Internet Direct Package $29.95
6x86 mother board $317

missing from this review. IBM, who has several full-featured entry-level machines, sent us a unit but it was unfortunately damaged in transit. We once again tried to acquire a machine from Compaq, but it had not arrived when this article was completed.

Every system here comes with a keyboard and mouse. For those with sound cards, a set of speakers has generally been thrown in. For the most part, the speakers that come bundled with these systems are cheap. However, if you're going to purchase a Pentium computer at the rock bottom prices we see here, I wouldn't be complaining about cheap speakers.

Ampaq P 133

Most vendors chose to send us a Pentium 75 machine to meet our under $1 400 price tag. Ampaq decided not to play by the rules and entered a 133 MHz Pentium that came in at $1 399. No joke. It was complete with 256K pipeline burst cache, 8 MB of RAM, a quad-speed CD-ROM, an 850 MB hard drive and multimedia speakers. Naturally, a system such as this, toting a higher-clocked chip, easily outpaced this month's stable of Pentium 75s. Compared with other 133s we have looked at in the Lab, it is a fair performer, given its 8 MB complement of RAM (most 133s these days come with 16 MB of RAM). Unbelievable price.

AST Bravo LC P/75

The Bravo LC P/75 is a bit of a misnomer for this machine, as one would expect a machine with such a name to use a Pentium 75 MHz processor. The Bravo uses neither an Intel Pentium nor a 75 MHz processor. Instead, it uses a Cyrix 100 MHz 5x86. Still, the 5x86 is a capable processor that has shown itself to be comparable to the Pentium 75 in terms of performance. At 128K, the AST comes with half the cache of any of the Pentium systems in this survey, so this is perhaps not a fair place to look at for the comparative speeds of the two types of processors. The Trident video subsystem and several other ports are built onto the Bravo motherboard, which comes with 8 MB of RAM and an 850 MB hard drive.

Continued on page **33**

Thanks to Intel Pentium Power

Editor's Choice Again

Computer Paper March 1996

Express Micro

Express Micro Pentium 166 PCI Pro-series

Express Micro Pentium 133 May 1995

"This machine has several exciting characteristics. It's a no-holds-barred system, chock full of first-rate components. The system is one of the quickest we saw on the BAPCo benchmark test... The vehicle that sends this system over the top is its wide SCSI hard drive subsystem that has a maximum throughput of 20 MBps.

...This machine was also equipped with a Panasonic PD/CD 4X CD-ROM/Rewritable 650MB optical drive.

This is perhaps the most interesting and innovative optical drive on the market today. In fact, the PowerDrive2 is two drives in one; a hybrid, quad-speed CD-ROM and phase-change read-write device. The device automatically differentiates between the two types of media using the one laser mechanism to read CD-ROMs and perform read-write operations on phase-change cartridges...

The $39 price tag on the phase-change cartridges, with their 650MB capacity and 50-year shelf life, makes this drive well suited for backups and near-line storage. It is a faster, more durable alternative to tape, and with a lower cost per MB ratio than hard drives. Average seek time and sustained data transfer rate differ slightly depending on what media you are using. The phase change specification offers 165 ms seek time and a claimed average read rate of 570 K/sec. The quad-speed CD-ROM offers 195 ms access time and a 600 K/sec data transfer rate"

The Computer Paper March 1996

Award-Winning System

- ☐ Intel Pentium 166 MHz
- ☐ PCI bus architecture
- ☐ Tyan systemboard
- ☐ Intel Triton chipset
- ☐ 16MB EDO Ram
- ☐ Pipelined 256K cache 7ns COAST module
- ☐ Matrox Millennium PCI 64-bit Graphic with 2MB Windows Ram
- ☐ Quantum Wide-SCSI H.D. 2.15GB @ 8ms with 1024K cache
- ☐ Adaptec PCI Wide-SCSI adapter
- ☐ Panasonic PD/CD "2-in-1" Drive 4X-CD & Rewritable 650MB optical
- ☐ Sound Blaster AWE32 stereo w/ASP
- ☐ Cardinal 28.8 Voice/Fax/Modem
- ☐ ECP/EPP parallel port
- ☐ UART 16C550 serial ports
- ☐ Infrared communication port ready
- ☐ Pro-Mid Tower w/230W power supply
- ☐ KeyTronic Windows 104-Keyboards
- ☐ 5 year Canada-wide limited warranty
- ☐ Entire system CSA/DOC certified

Cost-effective IDE Solution

- ☐ Quantum ATA-2 H.D. 1.28GB 10ms
- ☐ Quantum ATA-2 H.D. 1.7/2.5G (Apr 96)
- ☐ SCSI-2 adaptor for PD/CD drive

Express Micro P-166

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- Computer Paper March 1996

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T-410CS	P90	8/810		$4370

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Ascentia 950	P90	8/810	$5894

NEC (Great Value)		RAM/HDD	S.R.P.	NBS
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Notepro 959	P120	16/1GB	$6599	$5612

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CF-41	P90	8/1.2GB	$9499	[illegible]

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Contura 430C	486DX4/100	8/720		$3053
LTE 5000	P75	8/510	$7490	$3774
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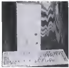
Continued from page **31**

Bondwell P 100

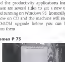
This machine from 3D Micro crawls a little out of the budgetary range we set for this survey. However, extra software and a faster 100 MHz Pentium processor position this system as a good contender in the lineup. With the exception of the processor and the Western Digital hard disk in this machine, it has a similar configuration to the other system from 3D Micro, the IPC P 75 found later in this review. This system offers slightly better performance for a few extra dollars and comes with quite an array of software titles. Two Windows 95 tutorial CDs, Doctors Book of Home Remedies, The Let's Learn Series, The Marilyn Monroe Files, Slam City, Quicken Deluxe and Compton's Interactive Encyclopedia should keep you busy.

Bondwell 5x86-100



If you need a low-cost computer capable of taking care of work and play, look no further than this Bondwell computer equipped with the Cyrix 5x86 CPU. The machine comes with a 4x CD-ROM drive and 16-bit sound card, and with a price tag under $1,000 you can add a good 15" monitor and not stray above $1,500. The Cyrix processor is supplemented by 256K of cache and 8 MB of RAM. The 540 MB hard drive is perhaps on the small side by today's standards, but it's still plenty for the Windows 95 operating system and the productivity applications included. There are several titles to get a new user up and running on Windows 95. Ironically these come on CD and the machine will require a CD-ROM upgrade before you can benefit from them.

Comax P 75



Comtronic sent in a fully loaded system complete with S3 PCI video, a sound card and CD-ROM drive from Acer. The core components of this Pentium 75 are 8 MB RAM, 256K pipeline cache and an NEC 1.08 GB hard disk. Novell Perfectworks is also included. The system performance on the BAPCo benchmark suite is above average for this class of machine. This machine also incorporates a 14.4K voice/fax/modem into its configuration. We've looked at several voice modems before, and recently I decided to set one up at home to handle in-coming calls. These devices run circles around what the phone company can do for you and are a great solution to receiving faxes and voice messages on a single line. Voice mailboxes and forwarding to pagers are just a few of the features that are relatively standard among these modems. While we don't recommend surfing the World Wide Web with a 14.4Kbps modem, for general communications such as e-mail and message-taking, these things are wonderful.

Contact: www.comtronic.com

Comtex P 75

This is a system we looked at during our Christmas roundup, "A PC for under the tree." Since that time, the price for this system has dropped considerably and the software bundled with it has been revamped. The components are all pretty much standard issue for a machine of this class — Pentium 75, 8 MB RAM, SiS PCI video, Sound Blaster 16, quad-speed CD drive and an 850 MB hard drive. The system comes with a good selection of software: Microsoft Encarta 96 (a

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must-have) Dangerous Creatures, MS Works Oceans and MS Home Sampler. This selection has the productivity education and entertainment areas fairly well covered

Dalwa P 75

The Dalwa is noticeably devoid of a sound card and CD-ROM drive Dalwa opted to include a 14 Deytek 28 non-interlaced monitor while managing to keep the cost under $1 350 The system uses standard asynchronous cache and comes with 8 MB of RAM a 1 MB SiS PCI video card and an 850 MB hard drive This system is complete and a good solution for the office and home provided you can get away without sound and a CD-ROM drive. If you are willing to shop around, there are several double-speed CD ROM/sound card combinations that can be had for less than $150 allowing you to walk away with a nice computer package for just under $1 500 — amazing

Dell Dimension P-100c

Dell still sells Pentium 75 MHz machines but has stopped actively promoting them Andrew Ross of Dell Computers tells us that in a few months the Pentium 75 MHz machine will be dropped entirely leaving the P 100 class of machines as the bottom end of its line Dell computers always achieve high performance scores in their respective classes. The XPS P-100c is actually Dell's slightly upscale model of the 100 MHz machine and comes with a #9 Motion FX 771 graphics accelerator with 2 MB DRAM The rest of the machine is composed of 8 MB of RAM and 256K cache, a Quantum Fireball 1 08 GB hard drive a Sound Blaster 16 and a quad-speed CD ROM drive

The machine we reviewed came with standard RAM and cache but we were informed Dell no longer has a price differential on EDO and pipeline burst so an XPS equipped with these should stand in an even better light in terms of performance One caveat with buying a system from Dell is that there is an extra $150 added onto the base system price if you do not purchase a monitor with the computer. So, if you already have a monitor and you just want to get your hands on the other parts of a system Dell may not be your best option For a complete system, Dell's support and configuration seems to hit the nail squarely on the head at a small price premium.

Contact. www.dell.com

Express Micro P 75

Last month Express Micro's fully loaded Pentium 166 MHz machine received my pick for its speed and feature-rich configuration This month at the other end of the Pentium scale Express Micro sent in a 75 MHz Pentium machine complete with 256K of pipeline burst cache 8 MB of RAM an 850 MB hard disk, an S3 Trio 64, an ESS 1688 sound card and a Toshiba quad speed CD-ROM drive This machine also comes with Novell Perfectworks and the fairly standard offering of Windows 95 This machine is a few dollars more than the average but given that it is among the better performers and comes with some productivity software to get you started it may be a few extra dollars well spent.

IPC CD/FX 575

The entry-level offering from IPC comes with a longer than usual list of software titles. In the box you will find Encarta 96, MS Works, MS Money, MS Golf, Dangerous Creatures, Starts Here and How and Why. IPC also supplies 40 blank discs with their machines which can be used to perform a backup of the system software. The hardware side of the equation consists of 8 MB EDO RAM, 256K cache, Avance Logic Video and a 1.08 GB hard drive. The system comes with a quad-speed CD-ROM drive and uses a Boca Sound Expression audio card, giving the consumer the added functionality of a built in 14.4Kbps modem. IPC has an interesting spin on upgrading the processor of this machine: if you buy a Pentium 75 now you are issued a certificate that, effective Aug. 15, allows you to upgrade to a 100 MHz processor for $149 or a Pentium 120 MHz processor for $199. Installation included.

Micro Infiniti P 75

The Micro Infiniti packs the same general configuration as many of its brethren in this survey. The core components are 8 MB RAM, 256K pipeline burst cache, an 850 MB drive and a Cirrus Logic 5430 with 1 MB. This is one of several systems that manages to sneak in a 14.4K data/fax/voice modem along with a quad-speed CD-ROM drive and a Sound Blaster 16 compatible audio card and still remain under the $1,400 mark. This system offered above-average performance for its class.

Mynix Vantage P 75

St Laurent, Quebec based Mynix consistently sends *The Computer Paper Test* Lab competitively priced, solid-performance systems for review. This month's Pentium 75 is no exception, configured with 8 MB of RAM and 256K of cache. The Vantage uses an SiS 6205 for video, an 850 MB Quantum HD for storage, a Mitsumi quad-speed CD-ROM drive, and an ESS sound card. Decent performance for just under $1,500.

➤

What is BAPCo?

The Computer Paper Lab frequently gets inquiries about BAPCo and how the benchmark suite can be acquired. BAPCo SYSmark 95 is freely available. Here is the official word taken from the BAPCo Web site:

BAPCo is a non-profit corporation comprising leading PC hardware and software vendors, chip manufacturers, and publishing companies.

"Our charter is to produce benchmarks that reflect how personal computers perform in actual business situations," says BAPCo president John Sammons. "This free offer will spread the use of SYSmark95 for Windows, which is a valuable tool for those who make purchasing decisions for PCs."

SYSmark95 for Windows has been updated to reflect the latest versions of the most-popular business software for PCs. Scripts for the application programs have also been updated based on a survey of how new software features are exercised in actual user environments.

SYSmark95 for Windows benchmarks represent the workloads of word processing, spreadsheet, database, desktop graphics and desktop publishing programs.

SYSmark95 for Windows includes a Windows-based workload manager, scripts for 10 Windows applications, automation tools, and a disclosure report generator. The program can generate performance metrics as a composite of all the different applications or for a specific category of applications, such as word processing or spreadsheets.

Workloads based on the following applications are included in SYSmark95 for Windows:

WORD PROCESSING: Word for Windows 6.0, WordPerfect for Windows 6.0a, AmiPro 3.1

SPREADSHEETS: Excel 5.0, Lotus 1-2-3 for Windows Release 5

DATABASE: Paradox for Windows 5.0

DESKTOP GRAPHICS: CorelDraw 5.0

DESKTOP PRESENTATION: Freelance Graphics for Windows 2.1, PowerPoint 4.0

DESKTOP PUBLISHING: PageMaker 5.0a

Contact: John Peterson, BAPCo, Tel: 408 988 7654

Web site: www.bapco.com

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BUDGET DESKTOP SYSTEMS SURVEY

	AmPAQ 133MHz	AST Bravo LC P75	Bondwell P-100	Bondwell 5x86	Comax P-75	Comtex P-75	Daiwa Hits P-75	Dell XPS P100c	Express Micro P-75
Processor	Pent. 133 MHz	Cyrix 100 MHz	Pent. 100 MHz	Cyrix 5x86 100 MHz	Pent. 75 MHz	Pent. 75 MHz	Pent. 75 MHz	Pent. 100 MHz	Pent. 75 MHz
Cache	256K P-B	128K	256K	256K	256K	256K	256K	256K	256K P-B
RAM	8 MB	8 MB	8 MB EDO	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB
Video Card	Trident 9440	Trident 9440	AL 2302	AL 2302	S3 3385	SIS 201	SIS 6202	#9 Motion FX 771	S3 Trio 64
Video Memory	1 MB	1 MB DRAM	1 MB DRAM	1 MB DRAM	1 MB DRAM	1 MB	1 MB DRAM	2 MB DRAM	1 MB DRAM
Sound Card	SB-16 compat.	None	Reveal Snd Express	16-bit	Acer SP301	SB-16	None	SB-16	ESS 1688
Hard Drive	Quantum 850 MB EIDE	Conner 850 MB EIDE	Western Digital 850 MB EIDE	Fujitsu 540 MB EIDE	NEC 1.08 GB EIDE	Western Digital 850 MB EIDE	Quantum 850 MB EIDE	Quantum Fireball 1.08 GB EIDE	Quantum 850 MB EIDE
CD-ROM Drive	Teac 4x	None	4x	4x	Acer 4x	4x	None	Teac 4x	Toshiba 4x
System BIOS	Award	AST	Award	AMI	AMI	AMI	AMI	AMI	AMI
Plug & Play Support	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Operating System	Windows 95	Windows 95	Windows 95	Windows 95	Windows 95	Windows 95	Windows 95	Windows 95	Window 95
[illegible]	[illegible]	[illegible] SystemGuard AcerPair	[illegible] [illegible] [illegible] Lots of software	[illegible] [illegible] [illegible]	[illegible] [illegible] Speakers [illegible]	[illegible] Lots of software [illegible]		[illegible]	[illegible] [illegible] [illegible]
Software Included	Standard	Good	Excellent	Excellent	Standard	Excellent	Standard	Standard	Good
Price/Performance	Excellent	Poor	Good	Good	Good	Fair	Good	Good	Good
Extra features	Fair	—	Good	Fair	Good	Good	—	Good	Fair
Windows Benchmarks									
Word Processing	259.81	146.57	195.78	152.41	181.77	196.87	164.43	246.12	187.13
Spreadsheet	383.38	181.78	259.21	193.79	225.41	213.87	208.56	299.32	231.22
Database	158.53	107.52	138.25	116.54	126.55	128.68	128.97	185.43	127.58
Desktop Graphics	427.99	210.28	318.02	217.38	253.28	249.55	246.43	340.57	264.28
Desktop Presentation	248.13	142.10	195.01	151.28	172.81	181.58	162.24	224.66	180.06
Desktop Publishing	256.08	141.20	193.04	149.22	177.10	184.31	163.09	241.39	183.47
Sysmark	273.03	150.35	210.40	162.26	187.15	179.06	176.54	268.18	193.80
Contact	905-479-7666	905-507-3278	800-567-7413	800-567-7413	800-297-5506	604-244-8878	905-940-3889	800-387-5752	905-479-1443
Suggested Retail Price	$1,399	$2,109	$1,699	$999	$1,399	$1,999	$1,339 **	$2,649 ***	$1,549
Warranty	1 year	3 years	3 years	3 years	2 years	3 years	2 years	3 years	5 years

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	IPC CD/FX 575	Micro Infiniti P-75	Mynix Vantage P-75	NEC Ready 9522	Samtack P75	Sirus P-75	STD CompuPartner TP7504	Tangent P-75	Ultinet P-75
Processor	Pent. 75 MHz	Pent. 75 MHz	Pent. 75 MHz	Pent. 100 MHz	Pent. 75 MHz	Pent. 75 MHz	Pent. 75 MHz	Pent. 75 MHz	Pent. 75 MHz
Cache	256K	256K P-B	256K	256K	256K	256K P-B	256K	256K P-B	256K P-B
RAM	8 MB EDO	8 MB	8 MB	16 MB	8 MB	8 MB	8 MB	8 MB	16 MB
Video Card	AL 2302	Cirrus Logic 5430	SIS 6205	Alliance Promotion	AL	Trident 9680	Cirrus Logic 5440	SIS 6502	ATI Mach 64
Video Memory	1 MB DRAM	1 MB DRAM	1MB DRAM	1 MB DRAM	1 MB DRAM	1 MB DRAM	1 MB DRAM	1 MB DRAM	1 MB DRAM
Sound Card	Roca Sound Exp	SB-16 compat.	ESS 1688	SB-16 compat.	SB-16 compat.	SB 16	SB 16 Vibra	ESS 1688	SB-16 compat.
Hard Drive	Fujitsu 1.0 GB EIDE	Quantum 850 MB EIDE	Quantum 850 MB EIDE	Conner 1.6 GB EIDE	Seagate 1.06 GB EIDE	Western Digital 850 MB EIDE	Seagate 1.08 GB EIDE	Fujitsu 1.08 GB EIDE	Quantum Prosell 1.08 GB EIDE
CD-ROM Drive	4x	Mitsumi 4x	Mitsumi 4x	4x	Goldstar 4x	Panasonic 4x	Panasonic 4x	Acer 4x	Creative Labs 4x
System BIOS	Award	Award	Award	—	Award	Award	AMI	Award	Award
Plug & Play Support	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Operating System	Windows 95	Windows 95	Windows 95	Windows 95	Windows 95	Windows 95	Windows 95	Windows 95	None ¹
Extras	Speakers Voice telephony 14.4K Fax/modem Lots of software [illegible]	Speakers Monterey 14.4K voice/fax/modem	Speakers	[illegible] 28.8K voice/ fax/modem [illegible]	Speakers	Speakers [illegible] [illegible]	14.4K fax/modem	Speakers	[illegible] [illegible]
Software Included	Excellent	Standard	Standard	Excellent	Standard	Good	Standard	Standard	Good
Price/Performance	Fair	Good	Good	Poor	Good	Good	Good	Fair	Excellent
Extra features	Good	Good	Fair	Excellent	Fair	Fair	Good	Fair	Fair
Windows Benchmarks									
Word Processing	164.25	183.60	161.50	236.55	165.80	187.75	174.66	193.36	281.82
Spreadsheet	201.81	221.15	208.70	268.52	205.27	232.51	212.48	213.31	241.56
Database	116.36	131.98	120.75	294.39	128.81	136.68	136.34	78.30	325.88
Desktop Graphics	247.59	256.07	243.09	334.04	248.18	290.80	253.85	236.59	274.96
Desktop Presentation	155.26	177.13	152.42	226.00	182.19	181.99	159.50	128.81	237.36
Desktop Publishing	156.29	180.40	155.10	223.31	163.52	181.97	170.49	130.76	233.53
Sysmark	168.88	189.26	172.07	272.18	178.17	184.38	184.80	146.01	264.87
Contact	800-567-7413	905-305-1788	514 344-2890	800-632-4636	905-940-1989	905-470-2412	519 686-3333	905-470-1443	800-513-7730
Suggested Retail Price	$1,589	$1,300	$1,495	$3,200	$1,495	$1,599	$1,440	$1,449	$1,262
Warranty	3 years	2 years	3 years	3 years	2 years	2 years	2 years	2 years	2 years

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Cardinal 28.8 External v.34 with voice $270
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* VISIT OUR HOME PAGE AT <http://www.hwy401.com/rocket.html> AND E-MAIL <rocket@globalcon.com>

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- 8MB Ram (70ns 72 pins)
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- 1 GB Enhanced IDE Hard Drive
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- Princeton ED 15" NI Monitor (1280 .28 dpi) Low radiation green color cont,on-screen display
- Mid-Tower Case 7bays with 230W Power Supply
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NEC Ready 9522

We could not get our hands on the exact system we desired for this review but wanted to include this as an example of a system that comes with lots of extras. This system is based on a Pentium 100 and comes with 16 MB of standard RAM. You can, however, find an NEC Ready that uses the 75 MHz processor and 8 MB of RAM. The NEC Readys have several good features. They are going to cost you a little more but consider what you get. The system we looked at comes with more than 20 software titles, a 28.8K modem and 24-hour (even on weekends) technical service. The system is also the only PC that has passed through the Lab that comes with an IrDA port for infra red data transfer. There is also a remote control with this unit that alters audio and telephony functions. We think the remote control is a bit silly, but this aside, Ready systems from NEC have all the stuff you need to get started. The systems are quite pricey, but good for the first-time buyer of a home system.

Contact: www.nec.com

Samtack P 75

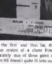
Samtack produces systems that are generally well priced with good performance. The Pentium 75 system sent in this month is no exception. It came with the standard 8 MB RAM, 256K cache combination and uses a Seagate 1.08 GB drive. (If the noise of a whirling hard disk gets on your nerves, you will appreciate the quiet Seagate drives.) Samtack uses an Avance Logic PCI video card and accomplishes multimedia via a Sound Blaster 16 compatible audio card and a Goldstar quad-speed CD-ROM drive.

Contact: www.pinegroup.com

Sirus P 75

The system from Sirus this month sneaks a little outside our price barrier but pulled out some respectable numbers on the BAPCo benchmark suite; the fastest for this class of system with the standard complement of 8 MB of RAM. Better speed on this unit was achieved with the help of pipeline burst cache and a Western Digital hard drive. The system is completed with a Panasonic quad-speed CD-ROM drive, a Sound Blaster 16 and a Trident PCI video card. Grolier's Encyclopedia is included, which is a decent reference CD that will show off some of the capabilities of this machine.

STD CompuPertner P 75



STD is the first, and thus far, the only Canadian maker of a clone Power PC. Unfortunately, one of those gems running Windows NT doesn't quite fit into our entry level category. STD did, however, send us a Pentium 75 that fit the bill quite nicely. This system, along with the standard cache and ➤

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memory configuration came with a Cirrus Logic 5440 PCI video card with MPEG support and a 14.4K fax modem. Couple this with a Sound Blaster 16 and a quad speed Panasonic CD ROM drive and you have a pretty complete system at a very reasonable price.

Tangent P 75

The Tangent system features a motherboard that will support Pentium processors running up to 200 MHz. This Pentium 75 MHz incarnation of the system came with 8 MB of RAM and 256K of pipeline cache. It uses an SIS 6502 PCI video card, an ESS sound card and an Acer quad speed CD drive. A 1.08 GB Fujitsu hard disk should offer enough storage for your immediate needs. This machine was a little slow on the benchmarks but still within the realm of competitive.

Continued on page 41

The Apple among oranges

The Macintosh computer that fits into the entry-level class of computers is the 580 CD which we first looked at way back in September.

The 580 uses a 68LC040 processor which can be upgraded to a PowerPC should you decide down the road that you require some added speed. The system comes with 8 MB of RAM, a 500 MB hard disk, a double speed CD ROM drive, 14.4Kbps fax modem and 20 software titles.

You also have the option of adding a TV/video interface to this machine, which allows for video editing as well as watching television while you work.

The 580CD has an all-in-one design housing the monitor and CPU — a complete system ready to run. Priced at $2,000 it is strong competition for the Pentium 75 units in this month's review. ☐

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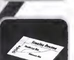

Big bang, for small bucks

Continued from page 39

Ultinet P-75

Ultinet is a price leader in the Canadian computer market. This Pentium 75 is not the cheapest PC in the survey but it certainly boasts some features above its competitors average specifications: pipeline burst cache, a 1.1 GB hard drive and a larger than normal 16 MB of RAM. Other goodies include a quad-speed CD ROM drive, an ATI Mach 64 and a Sound Blaster-compatible audio card. Ultinet is one of very few vendors that does not package an operating system standard with their system. The DOS/Windows combination will cost you an extra $118, Windows 95 $135, or you can go elsewhere and purchase one of several other flavors of operating system for this machine. The system scored well on the benchmark test, thanks in part to its higher complement of RAM. The system also comes with Compton's Encyclopedia and a CD of shareware games for after hours entertainment.

Contact: www.rogill.com/ultinet.npc

The Computer Paper Editor's Choice

Bondwell 5x86

Dalwa P-75

Every month, when it comes time to decide which piece of equipment gets our [illegible], we try to put ourselves in the position of a consumer in the market for the equipment under review. This is never an easy task and I often belly ache over it for days and even weeks.

This month, just so you know, I put some of my money where my mouth is and actually purchased one of the machines we selected. Even though about 200 computer systems have passed through our doors in the Lab, I still find deciding which one to spend my hard earned cash on is a daunting task.

This month was especially tough as there really isn't a lot of difference between many of the systems reviewed. The Pentium 75s we look at that use the standard 8 MB of RAM and 256K of cache form a cluster in the area of price performance. One or two vendors managed to sneak in a 14.4K modem as an extra and we received a few that included a couple of multimedia components. A bare bones machine like the Dalwa allows one to add a monitor for a ready-to-go system at an extremely low price. The Bondwell 5x86 offers a full system with Pentium performance for under $1,000 sans monitor. There isn't a big difference between these two systems, and it was on one of these that I put my money. ■

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Kids software at centre of multimedia revolution

CD-ROM publishers provide teachers and parents with effective new tools

BY JEAN ALLEN IKESON

There is a multimedia revolution taking place within the children's software industry. In the last three years, the sophistication of CD-ROM technology has increased dramatically and kids software publishers armed with these sight and sound laden CD-ROM titles are trying to win the hearts and minds of five to seven year olds.

One CD-ROM can hold about 650 MB, as much information as the average hard drive on many new computers. Using this capacity publishers have improved the graphic and sound quality of the software. Many programs now have both Macintosh ➤

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This enriched teaching tool, while not replacing traditional methods — or teachers — capitalizes on the learning methods young children favor: experimentation and exploration.

The desire to explore is one reason children adapt to computers so quickly while adults often struggle. Young children are indefatigable explorers. Interactive programs channel this behavior into an effective and often fun learning environment.

CD-ROM technology also allows teachers to develop the research and writing skills of children in Grades 2 and 3 before reading and spelling skills have fully developed. This is due to the intuitive nature of programs that require little skill to operate.

The best CD-ROMs offer help icons that can be heard in addition to being read. Many CD-ROM encyclopedias and dictionaries read out the text to children and search functions often include pictures of the desired topic. Related words or topics are as close as pushing an on-screen button.

The following is a sampling of the variety of innovative programs from CD-ROM publishers.

Multimedia storytelling

Programs such as Kids Works Deluxe from Davidson let kids write stories on a screen that looks like the double-ruled paper used by children just beginning to print, and uses a font that resembles school printing.

Preset icons, or icons that a child has drawn, can be used in the place of words. The icon list serves as a picture dictionary. The program will automatically convert icons to the word and vice versa. The program will also read the stories back to the writer.

Pronunciations may be customized — for example, if the program pronounces the child's name incorrectly. A unique feature of the newest version of Kids Works is the choice of six voices. [illegible] the text so stories or plays will be read back as plays by up to six characters.

This new teaching tool, while not replacing traditional methods, capitalizes on the learning methods young children favor: experimentation and exploration

As most children love to produce spontaneous plays, this program is a good opportunity for teachers in the lower grades, or parents, to stimulate writing skills in an enjoyable way.

Kids Works Deluxe also contains an art program to incorporate drawings into the stories, which can then be printed out. Colour printers are wonderful for this but a little more expensive.

Microsoft's Creative Writer is a program similar to Kids Works but for older children in Grades 3 to 5. Creative Writer provides font changes, drawing tools and desktop publishing functions such as columns, colourful borders and clip art.

Learning to 'look it up'

My First Incredible Amazing Dictionary from Dorling Kindersley is another program that helps young students develop good research habits despite their lack of reading skills.

Young readers select a word, which is accompanied by a picture, and the definition is read out. The child doesn't need to know the correct spelling of a word to find it in the dictionary.

This CD-ROM reference tool also provides related words and topics. For example, if a school trip to the farm generates a class assignment, the students would look up 'farm' in the program and a "go-to button" would bring up associated words such as tractor, barn, cow, pig and horse. This encourages children to develop the "dictionary" habit.

Programs like My First Incredible Amazing Dictionary help build competence and confidence in an age group where undeveloped spelling often discourages writing skills.

For additional research, general encyclopedias such as Microsoft's Explorapedia: The World of People or The World of Nature, and more focused programs such as The Magic School Bus series, allow children to research facts and explore related subjects.

Explorapedia also has an on-screen button that leads users to related topics. From the section on tigers, the reader could jump to information on lions or domestic cats. Photos and videos are included, and Explorapedia will read out the text, a great option for children.

The range of specific topic reference ►

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programs is slowly increasing. I reviewed CD-ROMs on cats and dogs last fall in *The Computer Paper*. Corbis has just released a CD-ROM on volcanoes that is intuitive and provides spoken "narratives" on volcanology and, of special interest to young children, facts on how volcanoes affect people. These should be very helpful for special school projects.

Figuring it out

Math programs are a very common application of CD-ROM technology.

One of my favorites, because it covers topics such as shapes in addition to the manipulation of numbers, is Math Workshop for Grade 1.

The Learning Co. is developing a new program called Reader Rabbit's Interactive Math Journey for younger children, which will be a companion to its highly rated early reading program.

New from Davidson is Math Blaster Jr. (Davidson CD-ROMs are becoming the Dick and Jane of interactive educational titles.) Math Blaster Jr. is well designed and a worthwhile investment.

Experiments in early learning

Science programs on CD-ROM are few and far between, but there are a few that take advantage of this multimedia educational tool.

For young children, Sammy's Science House from Edmark is excellent.

Sierra's Quarkey and Queson's Turbo Science is great for Grade 3 and up. This program uses meters, scales and thermometers to measure the on-screen environment. Turbo Science, which covers both physical and natural science, includes a softcover book to explain concepts and help in problem solving.

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The Way Things Work science reference titles from Dorling Kindersley are great resources for Grade 2 and up. I have yet to see a title from this CD-ROM publisher's catalogue that is not outstanding.

Object-oriented fun

I have included games in this software overview because while not wholly educational, they do help children develop problem-solving skills and are good computer activities for recess or rewards.

One of my favourites is The Incredible Machine series from Maxis. The program provides action items that can be linked to create a chain reaction. For example, a fired cannon lights a candle that singes the tail [illegible]

[illegible]

[illegible]

Many [illegible] popular publishers [illegible] including [illegible] Sunflower Smilish [illegible] the results of variables when [illegible] farm etc. These [illegible] best for Grade 2 and up.

Another series of simulation games for the same age group is Microprose's Tycoon titles. Railroad Tycoon, Pizza Tycoon and Transport Tycoon are all excellent for home computer use but may be a bit difficult for younger children.

Not on CD-ROM but still one of the best "science" games for Grade 2 and up is The Learning Co.'s Gizmos and Gadgets. Players are asked to solve problems using elements and other physics concepts. ❑

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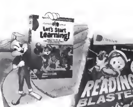
Early reading software:

CD-ROM publishers see the writing on the wall

BY JEAN ALLEN-IKESON



In the competition for a share of the children's educational CD-ROM market, the battle to create innovative early reading software seems the fiercest.

There is a wide variety of CD-ROMs labeled early reading. However, teachers and parents should be aware that this catch-all category can include anything from prereading matching games and letter recognition to word games using vocabulary that is at least Grade 2 level.

Teachers and parents should be aware that the catch-all category of early learning software can include anything from prereading matching games ... to word games using vocabulary that is at least Grade 2 level

That said, there are some outstanding programs available and the publishers of the best software have involved educators and students extensively in their design and testing.

Parents and especially teachers should know that many publishers of early reading titles will provide a teacher's version of a CD-ROM that includes documentation on effective use of the program.

Ready for School

Fisher Price Ready for School from Davidson, a company founded by an educator, teaches math, safety, manners and telling time in addition to reading. It also helps children learn computer skills.

Ready for School contains a CD-ROM for the young learner and one for parents and teachers which includes answers to commonly asked questions.

The program includes a softcover workbook for each topic (the workbooks can also be printed from the teacher/parent CD-ROM — a handy option for educators).

In addition to games and activities for learning the alphabet and words and spelling, Ready for School helps children learn numbers and counting, adding and subtracting, shapes and colors, time and emergency phone numbers. One activity teaches children about calendars which they can customize and print out.

Reading Blaster Jr.

Reading Blaster Jr. is another early reading skills program that will charm and captivate young children. The CD-ROM version is better designed and more sophisticated than the earlier disk-based Blaster series.

Reading Blaster Jr. includes phonics with letter blends, sight words, reading compre-

▶

hension and story sequencing

A nice touch is the Parents Tips module and the 25 printable books It is rated for four to seven year olds and would be on my list of must buy programs

My six year old has spent many hours playing with it and along the way has improved his spelling skills

Reader Rabbit

Reader Rabbit's Interactive Reading Journey from The Learning Co is without contest among the early reading programs It is available in consumer or teacher versions

The latest version of Reader Rabbit is a true beginning-to-read program It starts with letter recognition incorporates phonics and sight words builds sentences and then lets users master simple books

The CD ROM includes a series of 40 books which range in difficulty The books are also printed in softcover format bridging the gap between computer assisted learning and traditional classroom methods.

Sounding it out

The three CD ROM series Sound It Out Land is an excellent phonics program with games and songs that reinforce learning

An improvement on many phonics programs is Davidson's Kids Phonics This new CD ROM helps children use phonics to build words and then place them in sentences

Kids Phonics pronounces all letters phonetically In sounding out a word with an "i" for instance readers could choose a long or "name" I" or a short or "sound I" This is a nice, and obvious improvement over many other phonics programs

In the March issue of *TCP* I reviewed another pre-reading program Franklin's Reading World While it includes many fun activities some elements seem to be too complex for a beginning reader In matching the letter "m" to word endings it uses words such as mystic and musket I m not sure my fourth grader would know what mystic meant

Franklin is not in a class with Reader Rabbit or the phonics programs but it is valuable as an extra reading tool because the title character a young turtle has proven his appeal with children through a series of Scholastic books

The Franklin CD ROM from Sanctuary Woods has some gaps as an interactive program Users must hit the space bar to return to the main menu however children like more intuitive steps like icons arrows or help buttons that explain a procedure or concept orally

Covering all bases

Sierra's set of curriculum based modules called Adi's Comprehensive Learning System are great for Grades 2 to 4 There are science and math modules in addition to reading and writing

There has been substantial field testing and contribution by educators to this Adi series The grade levels and topics covered are appropriate However some programs labeled for eight to 10 year olds could be used by five to seven year olds who have computer experience

The Comprehensive Learning System would be an excellent choice for a child who is weak in any of the module areas It also comes with an interactive writing drawing animating and multimedia component Children can create their own stories with hot spots and go-to buttons and animated action

It's amazing to watch children problem solve and plan productions that seem complicated to adults

Another curriculum-based series is the JumpStart group from Knowledge Adventure These programs are for children at the preschool through Grade 2 level

Fun reinforcements

Games are a fun way of reinforcing reading and sight words indirectly and one series that I really like are the reading and work games from Lucas Arts such as Loom and Monkey Island

For these games the screen is divided into two with a picture taking up the top two thirds and a list of simple commands at the bottom of the screen

The player moves the character on the screen and then selects a command such as look at go to or pick up for the character to perform A sentence such as "pick up the phone book appears and when the command is performed the object is added to a list at the bottom of the screen

The player builds a verb list and a noun list while playing When he was four to five years old my youngest son learned about 100 words by watching his brother play and then trying it himself

Lucas Arts has bundled a group of five of these games, which are available on 3 5" disk, for about $35 This includes a hint book, which encourages kids to read a manual as a method of problem solving ❑

Contact
Davidson 1 800-545 7677 or http://www.davd com
Knowledge Adventure 1-818 542-4200
Lucas Arts 1-415 721 3300
Reading Blaster Jr 1-800 545-7677
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The new KX-P6500 Laser printer from Panasonic is the first laser printer of its kind that's designed to open Windows* Windows 95* ready this 600 dpi printer with image enhancement provides 1200 dpi equivalent text printing The KX-P6500 proves that great things do come in small packages But don't be fooled by its size Small enough to hide on a shelf, while large enough to deliver high quality printing makes the KX-P6500 perfect for the small or home office.

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Adding multi to your media

Presentation graphics grow up

BY ROD LAMIRAND

When DOS was king and Freelance Graphics ruled business presentation software the boardroom was a dull place The first Windows era (1990-95) added a little spit and polish to office charts and slides but nothing really amazing appeared

When Win95 made the scene, one of the first applications for it was Microsoft's own Office suite which provided users with 32-bit versions of Word Excel and PowerPoint As versatile as these three programs are a number of programs have recently hit the street that build on top of Office to give a company or individual user greater flexibility in presenting data.

Reviewed here, then are four programs that run on, or in concert with, Microsoft Office. Some work on both Windows 3 x and Windows 95 while others only work with the latter Two are great standalone products one really needs Office and one will not run without it.

With these programs it is possible to create stunning presentations, beautiful documents and even a small presentation movie Charting from Excel and/or presenting audio/video clips in PowerPoint are also possible.

Due to the improved abilities of OLE 2.0 and the greater stability of Windows 95 some of these programs push the Windows envelope while others simply do one thing, and do it well If you are running Microsoft Office and want to spice up your documents spreadsheets or presentations read on

ASAP

ASAP is a small product from a company with a lot of good ideas Software Publishing Company also makes ChartXL and Harvard Graphics — which did make it to the Windows world but never regained its early DOS prominence. SPC also makes a Netscape Plug-in called ASAP WebShow The product reviewed here, ASAP, is a small, two-disk program that installs quickly takes up little space is embarrassingly easy to use and costs less than any of the others

In a nutshell, ASAP is a formatter for PowerPoint presentations For example let's say you want to jazz up a basic 12 slide sales presentation With ASAP you can load the PowerPoint presentation and then change any of the design elements by simply clicking on selections from three menus that control layout design, and color schemes

By selecting one of the 16 predefined color schemes ASAP changes the text, background, foreground and highlight colors throughout your presentation

Once you get the right colors, you can alter the layouts Title, Bullets Checklist and Centered are four of more than 20 different ways of arranging information on the page What about looking at your message as a pyramid, a cycle a quote or a pros and cons list? You simply click through your presentation and try out different ways of presenting the data

The design menu allows you to choose elements that give your presentation a different look — for example you could select a background that looks like a notepad or the horizon

With all these options there are thousands of possible combinations, so you can be sure that your presentation will not look exactly like the one given the day before by the guy selling Widgets.

ASAP also does a few other things It installs an ASAP button into your Word tool bar, which allows you to take a document in Word, click the ASAP button and watch ASAP format the text for a presentation. This works wonderfully on anything that has an outline format or a series of points When I tried this on a plain piece of prose, however the results were not as good

If you have a company logo, you can easily insert it so that it appears in the corner of every page of the presentation. ASAP allows users to cut and paste from any Word or Excel document. You can also place your own digital photograph or design as a background to the slides.

Although ASAP is fairly flexible, it is really best described as a quick, inexpensive way to improve basic presentations without having to learn a lot of complex commands If you regularly use PowerPoint whether on Office 95 or Office for Windows 3 x, ASAP could be a good choice to keep your audiences interested ASAP sells for $99

Contact: Software Publishing Corp. 3165 Kifer Rd
PO Box 54983 Santa Clara CA 95056-0983

Compadre

Compadre is some piece of work. It has beautiful content with a dovetail interface and an ease of use that, as my grandfather used to say is as slick as grease on a brass doorknob. Compadre from Three D Graphics, is a one trick pony but it is a very handsome pony and it performs its trick perfectly Here is what it does.

Everyone has seen a boring slide presentation at some time or other. If you haven't

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spent much time in the boardrooms then you may recognize the genre from cable television. Often there will be a blue slide with a title and a series of bullets and maybe a stylized stickman or an enlarged percentage sign. The slide will dissolve or be wiped away to reveal another plain Jane slide.

Enter Compadre! This program allows you to format your presentation with rich, textured templates from smooth cold granite and marble to rougher touches like wire mesh or torn paper.

The Compadre CD contains 120 templates, 152 tiling textures, 23 video clips and more. Music clips, sound effects and many different buttons allow you to incorporate background music, great transition sounds and effects as well as video.

Compadre looks OK if your system is displaying 256 colors but if you are using High Color (16,000) or True Bit Color (millions), it is gorgeous.

Once you've compared a Compadre presentation with a regular PowerPoint presentation, you will never go back. This is a product that will take off.

Compadre is a little demanding. It won't run on anything but Office for Windows 95 but worked fine on my test system 486DX4-100, 8MB RAM, 2MB video card. Priced right at US$49.95 and a quick learn, Compadre is a must for businesses that want to give their presentations a professional touch.

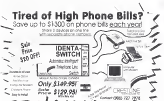
Contact: Three D Graphics, 800-1801 Avenue of the Stars, Los Angeles, CA 90067-5908

Q Media for Windows

Q Media is wonderful presentation software from the verdant shores of our western-most province. This homegrown program extends the presentation concept by using the metaphor of a movie. Q Media shows the user how to pick one scene and by incorporating flying logos or very smooth video clips. The program can, of course, load an existing PowerPoint file, and there are a number of templates to get you running, but once you have seen how easy the program is you will want to start with a blank set and go at it.

Using an outline or story-board technique you first consider what you want to do and say. Then you look for the ingredients you need to put it together.

In my experiment, I wanted to make a presentation that would show me and my wife moving to our new home. I found a great picture of a house on a lake and a video clip of a sail boat on the Q Media disc. Then I pulled a bitmap image of my daughter that I had on my hard drive and put it beside the house. I already had a logo that I had made in CorelDraw so I grabbed that and found a cou ➤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ple of sound files from the CD and one from the ToyStory Web site I visited a few weeks back

With these files sitting in a small box called the Clip List, I was able to begin When I wanted to place an object into the movie, I would simply grab it and drag it into the show By observing which frame we were at I could judge how far into the movie I was and thus time the overall scene Creating a path for an object to follow or placing interactive buttons into the movie was straightforward. It was all very intuitive.

When I was done I had a great little presentation with my daughter's voice and picture and zooming dollar signs over a new house fading into a video clip of a sail boat

There are demos to get you thinking extensive online help great flexibility in reading different file formats and, best of all over 500 MB of sound clips, photos and video.

There are two small caveats to mention about this program First you really need a video capture board The help file gives contact numbers and estimated prices for most of the boards out there The program screams video and, although there is a lot of good stuff it comes alive when you can run out, camcord something, and put it into your presentation

Second there was a truly frustrating problem with loading the software. I spent hours trying to get around the problem From my understanding, this particular problem is common with some systems, however, the very professional tech support knew immediately what the problem was and how to fix it (The fix was easy — suffice to say that if ctl3dr dll gives you any trouble, exit to DOS and delete that thing!)

Overall Q Media is an excellent program that I highly recommend It sells for $199

Contact Q/Media Software Corp 312 E 5th Ave
Vancouver BC V5T 1H4 Tel 604 879-0214

ABC Graphics Suite

ABC Graphics Suite is in a class by itself The largest and most versatile program here, it is also the most difficult to learn and the most expensive. However, for the time and money you get unparalleled abilities.

In the big picture ABC Graphics Suite from Micrografx, fills the gap between expensive specialized, high-end software like draw or paint programs and limited low-end programs such as some flowchart or Web-authoring programs.

The 32-bit ABC Graphics Suite is a companion set of programs to Microsoft Office 95 In ABC, Micrografx has included its Designer drawing package Picture Publisher image-editing software Flowcharter, and a large number of fonts and clip art files on three CDs The result is an OLE 2.0 compliant graphics add-on suite that takes Microsoft Office and turns it into, well everything

Using Office and the ABC Graphics Suite, I opened the Micrografx Media Manager and looked at the images on one of the discs and found a picture that I liked. I masked out the picture's background and replaced it with a black and white tile effect I altered the picture in a few ways by blending and cloning and then cropped it to a great little image

I then opened a document in Word and dragged the picture into the document. I played around with it then made the text flow around the picture After opening a PowerPoint presentation that I had created, I dragged the picture into the presentation and ran it to see that everything worked.

Using Graphic Suite's built-in graphic translators I took two images into ABC FlowCharter and made a family tree that showed who married whom. I pulled one of the pictures into Picture Publisher to color it and then began to create a cool Web page

This was just the start.

It is also possible to automatically translate an Excel spreadsheet into a pie chart or graph or any of a dozen visual representations of data. With the clip art photographs shapes, icons, buttons and forms, you can do landscape drawings create a company logo drag a spreadsheet into a flowchart or a flowchart into a word document.

If you were to buy the programs needed to do all these things individually you would pay much more than the $399.95 cost of ABC Graphics Suite and you would have to learn each program As it is, if you know how to use Office, then you understand most of the Suite already There is a bit to learn to utilize all the abilities of this add-on but most of the metaphors are simply extensions of the Office Interface and with so much drag and drop capability it is often a no-brainer.

If you do your graphics in-house and want a do-it-all program that utilizes your investment in Microsoft Office for Windows 95, then this is a great choice ❑

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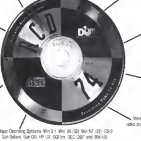
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Desktop video — "I'll do it m'self!"

BY JEFF EVANS

In the course of my job, I either use or review four or five new multimedia CD-ROMs a week. Virtually all of them include digital video clips. Virtually all of those clips are dreadful in quality, even when compared with the unprofessional standards of home VHS videotapes or cable television feeds.

I often think, "I could do better than that!" And, in fact, using the latest in digital video packages for the PC, any computer user can. This article will look at some of the more affordable add-on digital video systems for PCs currently on the market.

Miro DC20

We saw the Miro DC20 put through its paces at the fall 1995 Comdex show in Las Vegas, and got a demo unit to test at the office. Miro is a German company with a reputation for high quality and technical innovation (we reviewed the DC10, a fine combination graphics card/video-capture device, in a previous issue of *TCP*).

The DC20 is an extremely impressive and effective product, though a bit on the pricey side for a consumer with a low budget. The estimated street price in Canada is $1,300.

For a serious video enthusiast, or a small studio or business with the need for SVHS quality video, it is excellent. The product consists of a PCI video-capture and output card, plus some very good editing and special effects software.

Installation of the DC20 on a Pentium 133 with 16 MB of RAM was extremely easy. When we talked to some digital video dealers they all agreed that one of the outstanding features of the latest version of the Miro is that it has very few compatibility problems.

The DC20 accepts S-video input and captures it at full-screen resolution (640 by 480) and full motion speed (at 60 fields per second, the video runs at about 30 frames per second, with two fields per frame). It then allows the user to select different real-time Motion JPEG compressions. An individual image file can be compressed to one fifth, or to as little as one 100th, of its original size.

To get the best performance from the DC20, it is a good idea to have a lot of RAM on your system (8 MB is the bare minimum, but 16 MB is really the practical minimum) and a very fast, very big hard drive. With a bigger system capacity, you can capture longer digital video sequences.

Once video is captured, you can use the sophisticated non-linear editing software, which is included, to edit sequences together. Using the Adobe Premiere 4.0 LE and Photoshop LE ("lite" versions of these high-end packages) software included, you can add a wide range of transitions and other effects.

Because you are manipulating digital computer images, there is no loss of quality which sometimes happens when editing consumer video footage. The resulting video can be output as high-quality S-Video, and recorded to VHS, S-VHS, Video8 and Hi8 devices.

For mid-range consumer, corporate and industrial digital video production, the DC20 is hard to beat.

Reveal Video Artist

Reveal, a well-known vendor of PC multimedia upgrade products, offers a digital video-capture, editing, and effects bundle called Video Artist, which approaches many of the DC20's features at a very competitive price (about $650).

The capture card will grab video at up to 30 frames per second, at 320 X 200 resolution (compared to the DC20's 30 frames/60 fields and 640 X 480 resolution). It also uses motion JPEG image compression, and comes with video editor, image editor, image morphing, and screen-capture and image-utility software.

Installation was relatively easy, with the aid of the instructional video. A good book on digital video, *Making Movies on Your PC*, is also included.

At any time, in addition to saving video files to the hard drive (at around 28 MB per minute), you may output your video directly to a VCR or a TV monitor.

The Video Artist's main drawback, compared with the Miro DC20, is the lower video resolution. Nevertheless, it's a good mid-priced consumer digital video package.

Microjack Video Commander

For those with a smaller budget, the Microjack Video commander is a capable video framegrabber and motion video capture device. It allows you to input standard NTSC video onto the computer from up to three

Continued on page 55

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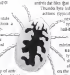
Virus wars escalate

BY GRAEME BENNETT

Products reviewed:
Norton Anti Virus for Windows 95
ThunderByte (TBAV) v7.00
McAfee VirusScan for Windows 95 v2.01
Disinfectant for Macintosh



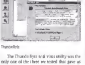
Since we last looked at the state of the art in virus protection a number of new developments have occured. The first Windows 95 specific virus ("Boza") has been isolated, and new categories of word processor-document viral invaders have emerged.

We've also spent some time with the latest crop of anti-virus utilities particularly McAfee VirusScan and the ThunderByte product. Both of these shareware utilities are available for free download and proved to be easy to install and uninstall.

We'll discuss them in detail later in this article, but for those of you in a hurry here's the summary: we found that the ThunderByte product gave more "false alarms" than the McAfee product and we liked McAfee VirusScan's features better overall. On the other hand, the ThunderByte utility was somewhat faster — and it's at least partially a Canadian product. More on this later too.

Although Symantec's Norton AntiVirus is not available by the shareware channels like its downloadable competitors it continues to be a solid choice as an anti-virus strategy. Symantec like the others has BBS and World Wide Web sites where updates to the programs are available to combat new virus types. The latest updates at the Symantec Web site (www.symantec.com) address the recent Boza and Word Macro virus threats.

The version of TBAV we tested (7.0) also provides protection against both of these viruses. TBAV also includes plain language descriptions of how to repair virus-damaged disks — a welcome addition.



ThunderByte

The ThunderByte anti virus utility was the only one of the three we tested that gave us any "false alarms" — a disconcerting experience, as you can imagine. The problem seemed to happen after we downloaded and installed updates to some (but not all) programs. Because the updates altered the file size and modification date of the program, they apparently caused a virus alert. We had no such troubles with either the Symantec or McAfee utilities.

We also found the ThunderByte utility did not work exactly as expected. Even after setting an option to "hide antivir.dat" files we found our hard drive and Windows 95 desktop littered with dozens of plainly visible antivir.dat files that TBAV installs.

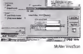
ThunderByte informs you of its pending actions (typically a countdown to the next scheduled scan of your system which occurs every half-hour by default) via a fairly large dialog box that, thankfully can be minimized. McAfee displays its status much less obtrusively, showing only a tiny shield (which can optionally be hidden completely) on the Windows 95 taskbar.

ThunderByte, and another Canadian anti-virus product called Virus Alert are based on a virus detection "engine" that was developed in Europe. The companies have licensed this detection code and produced products with different interfaces but similar speed (very fast compared to the anti virus utility bundled with MS-DOS 6.x¹) and capabilities.

The speed issue may or may not concern you but we think that the more intrusive an anti-virus product is, the more likely you will be to turn it off and then, of course, it does you no good at all.

Although Macintosh viruses are neither as common nor as typically malevolent as the PC variety they exist and should be protected against. We have found the freeware program Disinfectant by John Norstad to be a good defense. Disinfectant is available from virtually all Macintosh user groups, BBSes, and many sites on the Internet.

The key to the program's effectiveness is its ability to automatically install a "shield" (in the form of a system extension) that automatically checks all disks you insert into the machine. Fortunately this Disinfectant INIT is very unobtrusive and the author frequently updates the program to combat new virus strains. Unfortunately Disinfectant does not yet protect against the Word Macro virus, so a separate utility (such as the free ones available for Mac and Windows from Microsoft at www.microsoft.com) is required for this purpose.



McAfee VirusScan

Although we hope you'll never need to see the portion of the program that actually repairs virus damage and/or removes the virus (sometimes repair is not possible and the data on your disk must be reinstalled from a backup or the original disks), Disinfectant includes a fairly detailed description of the characteristics of the viruses it protects against. Just for fun there's also a ➤

humorous Monty Pythonesque animation of a huge foot that stomps on the nasty critters.

Another leading Macintosh anti virus utility is SAM — Symantec Antivirus for Macintosh. Like its PC sibling, the Symantec product is frequently updated to address new strains.

In general, we believe that any anti virus product that is reasonably up to date (i.e., able to detect and deal with current virus threats) affords satisfactory protection. After all, most people are as likely to suffer data damage by a power outage, computer malfunction or software bug in the software they currently use as they are likely to encounter a virus.

Of course, the anti virus tools mentioned in this article are not the only ones on the market, nor are they necessarily the best. We'll continue to test and report on anti virus solutions in future issues.

Let's examine risk factors

Give yourself one point for each "yes" answer to the following questions.

- I sometimes copy or run illegally obtained ("pirated") games or other programs.
- I sometimes download software from sources on the Internet or any other network or BBS.
- I receive word processor files from others and open them on a PC or Macintosh using Microsoft Word, WordPerfect or Lotus Ami Pro.
- I have used a program or data file residing on a floppy disk or hard disk owned by another person.
- On occasion I boot my computer from a floppy disk.
- I like to upgrade to new versions of software as soon as they come out.
- Other people sometimes use my computer when I am away.

If you answered yes to any of the questions you are at some risk. If you scored three or higher you are probably at considerable risk.

The last example is probably the single greatest risk to which we only half jokingly add "especially if they are university students" — not to malign those of higher education, but the highly networked labs and intranetworked edifices of post-secondary education seem to be a popular hangout for those programmers that are capable of creating viruses ("viri" if you prefer) and other examples — however warped — of "cleverness."

Signs that your computer might be infected by a virus

- Unusual messages, especially those of a prank nature, appear on your screen.
- Files disappear or are altered mysteriously.
- The behavior of your computer or application software changes. For example, your word processor documents suddenly seem to think they are "templates," etc.

If you think you might have a virus on your computer

- Download or otherwise obtain an anti virus product such as one of the ones mentioned here.
- Install it. Virtually all products will check the integrity of the system area and report any viruses found.
- Practice "safe computing."

Additional information may be obtained from Sensible Security Solutions Inc., which represents Dr Solomon's Anti Virus Toolkit and *Secure Computing Magazine* in Canada. Sensible security also edits Virus News and on line Security Alerts. 613-623-6898 Fax 613-623-3992 e-mail secure-1@magi.com

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Photos in — 3D models out

Upgraded Photomodeler is a simplified, trouble-free tool

BY GRAEME BENNETT

EOS Systems of Vancouver B C has officially released the new 2 1 upgrade to its Photomodeler program which takes photographs and turns them into 3 D models with surprising ease

The upgrade creates photo-realistic virtual reality markup language (VRML) files from color or black and white photographs — almost automatically We worked with a release version of the program on a P90 with 16MB RAM and found it to be trouble-free on both Windows 3 x and Windows 95

In the few hours we spent with the program we successfully created several WRL files with wraparound JPEG texture maps that made for amazingly lifelike models

The company calls Photomodeler 'The world's easiest way to create realistic photo-textured 3D VRML models for the Web and we're inclined to agree

To make a model you have to line up a perspective box with each of the photos you have taken (35mm video-capture and digital cameras are supported) then correlate points from one "reference" photo with corresponding points on the other photos Although the company says you need only two photos to create these references we found four photos to be more practical

The program can output a DXF file of the resultant model but we think its best feature is its ability to create fully texture-mapped VRML files that look great in WebFX and other VRML viewers.

There are a few features we'd like to see improved in future versions of the program For example it is currently impossible to change the "surface texture" from a cross-hatch which makes it almost impossible to see the reference points on top, and also makes it impossible to see the photo's details underneath If this surface texture could be defined as a semi-transparent mask (say like Photoshop's QuickMask mode) it would be much easier to work with I think this would be the ideal way to enhance this feature

As an alternative to the QuickMask approach perhaps the company could develop a feature to characterize surfaces as a red outline or something similar that wouldn't completely cover the background Even letting the user define a pattern such as dot-on-dot-off dot on grayscale surface would be preferable to this opaque eye-thrashing blanket the program throws up there now At the moment, the only alternative is the option to turn off surfaces

Company spokesperson Alan Walford says this function has been on its "things to fix" list for some time, and explained that because it uses a third party imaging library it has limited flexibility in this area The cross-hatch explained Walford is a built in Windows pattern (and there aren't many patterns to choose from)

Conclusion

With this VRML upgrade I think this product would appeal to a much broader range of users than the forensic and engineering-oriented users that have characterized the company's earlier customers In this light I think the product seems a tad expensive However one must remember that PhotoModeler began its life as a tool for engineers doing 3D measurement where US$795 is *cheap* When PhotoModeler was released the closest package available was from Rollie in Germany ➤

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Photomodeler

*Continued from page **54***

and cost US$22,000

In fact the company says that many people have found it hard to believe PhotoModeler works because it is so inexpensive!

Therein lies the pricing dilemma. Of course there are a number of possible solutions. When EOS comes up with a future release of Photomodeler — 2.5 or 3.0, say — it could reduce the price of the 2.1 version and target it as a VRML tool at a price point of no more than $299 — basically the Corel model of selling old versions cheap.

Alternatively it could make a feature reduced version that only did VRML, in the way Caligari is using its freebie VRML tool Fountain to grow sales for its trueSpace and (forthcoming) Fountain Pro products. (Caligari now sells its old version of trueSpace as trueSpace SE for a greatly reduced price. It's a trend!)

Of course perhaps the masses will read this review and be happy to plop down $795 and this whole topic will be a non-issue! ❑

Contact: Eos Systems Inc. 604 732 6658
E mail: eos@photomodeler.com
More info on PhotoModeler is available at
http://www.wimsey.com/PhotoModeler/

Desktop video

*Continued from page **51***

sources and outputs a VGA signal. Single frame 24 bit video captures can be stored in a variety of computer image formats such as TIFF or JPEG. You can also capture and play back full-motion video clips.

Installation involves plugging the card into a 16-bit expansion slot and connecting the MicroJack with a ribbon cable to the VGA graphics card already installed on your PC. You may have to reset some dip switches when doing the installation so unless you are a fairly experienced computer user, it is advisable to get help from your dealer.

Both DOS and Windows versions of the software are provided. The MicroJack also allows you to view incoming video (from a VCR, a video camera or a cable converter) in a window on your computer monitor.

For entry level digital video users, this is a cost-effective, flexible product. It sells for $385.

Planned obsolescence

The better digital video products such as the Miro system can create video that is about as good as VHS or even SVHS video.

If you are going to dive into the digital-video field be aware that change is occurring very rapidly in this area and better cheaper systems will inevitably appear in the next few years.

In particular, with the introduction of the high density CD-ROM format (sometimes called Digital Video Disc or DVD) at the end of 1995 the high-quality MPEG II video format is likely to become very common.

Whatever digital video system you choose for your PC in 1996 is going to be a short-term solution. ❑

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- Panasonic 1.44M Floppy Drive
- 2 Serial (16550) 1 Parallel ports
- **Keytronic XT2000 104 keys Windows** keyboard
- Med Tower 7 bays & **230W** Power Supply
- **ATI Mach 64** DRam PCI **2 Meg** Super VGA Card
- **GVC 15** .28 Non-interlaced Flat Screen **Digital** Control Low Radiation Super VGA color monitor
- **Logitech Mouseman** with pad
- Preload **Windows 95** with manuals & CD Disc
- 2 years labour & 1 year parts depot warranty

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- **104 keys** keyboard Software is not included
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- Panasonic 1.44M Floppy Drive
- 2 Serial (16550) 1 Parallel ports
- **Toshiba 6X** IDE CD ROM Drive
- **Sound Blaster 32** PnP card
- **Pioneer 180W** Speakers **QuickShot** desktop microphone
- **Keytronic XT2000 104 keys Windows** keyboard
- Med-Tower 7 bays & **250W Heavy Duty** Power Supply
- **ATI Mach 64** DRam PCI **2 Meg** Super VGA Card
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- **Logitech Mouseman** with pad
- Preload **Windows 95** with manuals & CD Disc
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Intel Triton™ chipset motherboard

Pentium Multimedia Systems

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- **Trident** PCI 1 Meg Super VGA Card exp to 2M
- 14" .28 Non Interlaced **Green** SVGA monitor
- **16 bits** stereo sound card
- **Panasonic 4X** IDE CD ROM
- **DOWA 80W** Speaker System
- **Mitsumi** MS compatible mouse
- Preload **Windows 95** with manual & CD Disc
- 2 years labour & 1 year parts depot warranty

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Make it Snappy

Play Inc.'s diminutive framegrabber a big value

BY EMRU TOWNSEN

Product Snappy Video Snapshot
Manufacturer Play Inc
System Requirements NTSC (North American standard) video source, Microsoft Windows, free parallel port
Street Price $283

Let's face it: no matter how much we claim to use computers for work, they are more commonly used to play games, needlessly change fonts and manipulate pictures. And more tools are now springing up to help connoisseurs of the latter pastime wile away more hours in front of their computer screens.

One of these tools is the video digitizer or framegrabber. While this method of inputting visual images does not offer the same quality of resolution or color definition as a scanner, it does offer the immediacy that computer users are so fond of. Pop the tape in or point the video camera, press a key or mouse button, wait a few seconds, and you've got your image on-screen.

Unfortunately, framegrabbers generally come in two flavors: internal, which hampers portability, and external, which is portable but can be inconvenient (honestly, do you want another modem-sized device on your desktop?). They also introduce a number of new cables and a power supply to your work area.

Good things in small packages

Play Inc., the creators of the Snappy Video Snapshot, have broken one of the cardinal rules of the universe by making a product that is cheap, fast, and good. More importantly, they have designed the Snappy framegrabber and its software to be extremely portable and easy to use.

The unit itself is easily the smallest framegrabber I have seen. A compact 13 x 5 x 2.5 cm (5 x 2 x 1 in.), it plugs directly into a PC's parallel port. It is battery powered, so it gets around the power supply problem — the manual claims a 9-volt battery is good for about 1,000 images.

Plug your VCR or video camera into the Video In, plug the TV into Video Thru if you're so inclined, and you're ready to roll. It is true plug 'n' play and even works easily on a laptop. Installing the software is equally simple: run the install program, select a directory, wait two minutes, and you're set. I was digitizing, or "snapping," my first image 10 minutes after I opened the box, without once picking up the manual.

In fact, I snapped a fair number of images before I bothered to look at the manual. The layout of the Snappy program is well organized and clear enough that, if you are even slightly familiar with framegrabbers, instruction is largely unnecessary.

Click the Setup button to choose your video source (e.g., live camera or VCR, moving video or still video) and the type of image you want (resolution, color), then it's just a matter of clicking on Snap when you're ready to grab an image.

The software snaps either 24-bit color or 8-bit grey images, with a choice of three resolutions: 320 x 240, 640 x 480, and 1,500 x 1,125. (The latter is not as impressive as it sounds, as NTSC video only has about 500 lines of resolution, but the increased horizontal resolution does make a difference.)

There is one problem when snapping an image, but it is not unique to the Snappy: there can be a noticeable lag between clicking

Continued on page 62

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Make It Snappy

Continued from page **59**

on Snap and the actual capture of an image The delay depends on processor speed — on a 486DX 33 there was a two or three second delay while on a 486DX4-100, the delay was under a second I imagine Pentium owners will have no problem with this

Play Inc has made even the delay easier to deal with. Unlike most other framegrabbing software I've used Snappy makes a "snapshot" noise when the image is captured. This gives a good indication of the delay and of how much lead time should be given for future snaps

I did eventually open the manual and found it straightforward humorous and easy to read It's easy and concise enough that novices should be up to speed in no time and users with framegrabber experience will only need to skim through it for a few tips and tricks

Even batteries are included

The Snappy comes with two programs Gryphon's Morph 2 5 and Fauve Software's Matisse Morph allows you to easily create an animation of say your mother-in-law transforming into Godzilla while Matisse is a basic image-processing program Matisse is no Photoshop (then again what is?) but it does offer a good balance between power and ease of use A pleasant surprise the Snappy edition of Matisse is more powerful than the shareware version found online and the cost of upgrading to the full version is only US$39 — $60 cheaper than the cost of upgrading from the shareware version.

Simply put I am very impressed with this product The packaging, the documentation the unit itself and the software are elegant easy to use and easy to understand Every computer product should be so well thought out The price is more than reasonable and the battery is even included The Snappy certainly lives up to its name ❑

Contact Play Inc. 2890 Kilgore Rd. Rancho Cordova CA USA 95670-6133 Tel 916 851-0800 Fax 916 851-0800 Web http://www.play.com

Emru Townsend's first framegrabbing experience was in 1987 when he got his face on a computer screen People have been trying to make him stop ever since He can be contacted online at emru@cam.org or by phone at 514 932 7145

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Big Blue bounces back

Invigorated IBM unveils its plans for the future

BY JEFF EVANS

IBM, long the world's leading computer company in both size and industry influence, seems to have completed a turnaround from its dire financial straits of the early 90s. After shedding tens of thousands of workers and confessing to the sins of pride, gluttony and not listening to the market, the company is once again profitable, and ended a recent quarter with the highest sales in its history.

To market, to market

When TCP recently visited IBM's research and development facilities in Raleigh, NC, it found a company that has decided to vigorously exploit the opportunities of the Internet, client/server networking, mobile computing, the small office/home office PC market, and even — gasp — Microsoft Windows and Windows NT. IBM also claims that it wants to leverage its enormous R&D investments (more than US$2 billion in software research alone in 1995) into world-beating new products.

Rather than keeping innovations in-house, though, IBM executives say the com

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pany is now "open for business" eager to licence technology to other manufacturers. Time after time IBM decision makers claimed that a large part of the company's re-engineering has been directed to getting new leading-edge PC products quickly from its labs to retail shelves. They pointed to the ThinkPad series and the Aptiva as early examples of this strategy.

Paradigm O Rama

IBM's model for the future is very network centric, with the Internet having become one of its main concerns. Several times, IBM described how the paradigms — theoretical models which help us to understand how the world works — of the computing industry have changed, and IBM is now trying to make sure that it doesn't get caught on the wrong side of the next big shift.

New for '96 — and beyond

IBM is planning to announce a new range of "multimedia rich" but severely cost reduced terminal style PCs, aimed mainly at foreign markets such as China and Eastern Europe. These are aimed at satisfying a large demand for affordable networked PCs for schools and businesses which want PC performance but at lower cost and with easier system administration and control.

TCP had a chance to use IBM Japan's fantastic Model 110 palm top PC, a fast 486 PC that weighs about 340 gm (12 oz.) — that's not a misprint — with 20 MB of RAM, a 350 MB hard drive, VGA color screen, keyboard and full Windows operating system and applications programs. When you close the lid, it turns into a cellular phone.

The Model 110 is only available in Japan for the equivalent of US$1,500, and is said to be selling extremely well. IBM has been reluctant to market it here, because it believes North American computer users demand a larger keyboard. (I'd love to get one of these even if I'd have to invest in a fingertip sharpener.)

IBM also showed a consumer Aptiva PC model running high quality MPEG II digital video, from a nine speed (1.35 MB per second) Digital Video Disc format CD-ROM. This new CD ROM format initially allows users to run discs with a capacity of about 4.5 GB ➤

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compared to current CD-ROM disc capacity of 650 MB. The new format will eventually allow for 17 GB CD-ROMs, which is more than 25 times the capacity of current discs.

The quality of the MPEG II movie footage being shown was at least as good as the best laser disc video we've seen. The new CD-ROM readers should be on the market in the fall and will be compatible with old style CD-ROMs.

We also saw a prototype of a new IBM ThinkPad, which at 1.8 kg (4 lb.) was very light but fully featured and had a huge 12 inch color screen. As well, we saw the first truly paper white, high resolution (1024 x 768, 18 bit color) LCD screen for a notebook.

The image quality rivals that of a Sony Trinitron tube — perfectly crisp and comfortable to read. IBM has made critical alliances with a number of technology suppliers so that it won't run into the problems it had with the ThinkPad a couple of years ago, when it had huge back orders but no supply of color screens.

Ozzie and the IBM Skunkworks

IBM also unveiled two of its star technologists. Ozzie Osborne (no, not the gentleman who allegedly bit the heads off bats during his stint with Black Sabbath) heads up the IBM Skunkworks (named in honor of the secret Lockheed aircraft facility where exotic aircraft like the U2 and the SR71 Blackbird were developed). New, often radically non-traditional PCs are being developed there. Under the glare of other IBM execs, Osborne could only hint at coming models of PCs that will incorporate different form factors (perhaps buried in TV sets) and capabilities, which will be released over the next two years.

Man/machine magician

As well, the developer of the IBM TrackPoint pointing device, Ted Selker, was on hand to give a thoroughly entertaining look into how to make a better man/machine interface. Selker spent a number of years at Xerox PARC's interface R&D labs before being lured away by IBM ("but they couldn't make me leave California," he joked). ➤

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Selker and his compatriots live and breath user interface. They have compiled a huge wealth of expertise on how people really use computers and what works (or doesn't) in terms of making computers easier to use.

Selker showed his own "hands-free" strap for supporting a laptop computer from his neck (despite the fact that he looked like an organ grinder, we didn't see a monkey with a cup). He also let us use a vibrating model of trackpoint: when the cursor passes over a "hot button" spot on the screen, the trackpoint buzzes gently against the user's fingertip, alerting the user that he or she is in contact with the right spot to click on.

Selker has also devised new versions of pointing software that accelerate and move in more intuitively and are easier to control. Using this new software, it's almost impossible to overshoot the cursor's target. He's also actively developing "intelligent agent" software to make computers more helpful to the user and simpler to navigate over networks.

Factory of the future
The IBM PC manufacturing plant we toured, which is almost entirely devoted to making Aptivas, is a combination of almost obsessively detailed computerized tracking of parts and processes and old-fashioned human labor. Every part is bar coded, and a database constantly keeps track of where every piece is. It's almost impossible for a defective unit to make it off the floor. Inventory of extra parts is minimal — IBM's suppliers store parts in warehouses near the plant and ship on a "just in time" (JIT) schedule.

Unsuitable Blue
One of the most telling indications of "The New IBM" has been the almost aggressive pride IBM execs take in not appearing stuffy and square. There were more suits worn by the visiting journalists than by the IBMers. In the past, the average computer journalist might be seen sporting long hair, a beard and various 60s-style artifacts. Now we look like Young Republicans, and the IBM guys look like they're relaxing at a resort. Things do change in this industry. ☐

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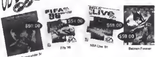

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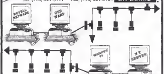

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How to minimize your risk of bad debts

Many people starting [illegible] a small business [illegible] [illegible] spend time marketing their service than developing a clear credit, billing and collection policy. A lot of [illegible] business owners [illegible] bad [illegible] experience [illegible] [illegible].

Having a system [illegible] is essential to your survival. [illegible] bad debts completely eliminated [illegible] business for the whole [illegible].

There are several [illegible] techniques to minimize [illegible]. The following general guidelines [illegible] be appropriate in a given client situation.

Avoiding misunderstandings on fees

Communication is vital to minimize client misunderstandings about fees. Many people feel uncomfortable discussing money matters.

It is important that the [illegible] you expect [illegible] understand and agree upon by the client [illegible] you commence work.

There [illegible] to eliminate misunderstanding on the [illegible] services performed [illegible] are through clear [illegible] communication, [illegible] contract or letter of agreement [illegible] detailed invoice.

Advance retainer

A client can be asked to pay a retainer or deposit of 10 percent to 25 percent or more of the total contract amount prior to the work being performed.

This can be justified on the basis that you are very busy and if you are going to schedule in a commitment to the client. It is your company policy to require an advance commitment retainer.

This is also an effective technique for protecting yourself from a new client who might delay payment or who doesn't pay.

Prepaid disbursements

Depending on the length of the job and type of client, you may wish to request prepaid disbursements if they are going to be sizable.

Alternatively, arrange to have your client pay for any airfare, hotel or hotel meals directly. You do not want to carry the client for out-of-pocket expenses at the risk of your own cash flow. You also do not want to run the risk of a nonpayment or dispute of the overall account.

Progress payments

It is common to invoice at specific points in the project. The stages at which progress payments are to be paid would be outlined in the contract.

Regular billing

Statements can be sent out on a weekly or monthly basis, depending on the circumstances. This also provides you with the advantage of knowing at an early stage in the project if the client is going to dispute your fees, and at this point you can either resolve the problem or discontinue your services.

Billing on time

Generally a client's appreciation for the value of your services diminishes over time. This is a common problem. It is important, therefore, to send your bill while the client can see the benefit of the service you have provided.

Follow up of late payments

If you see an invoice is more than a week or 10 days overdue, begin the various steps of your collection system immediately.

Personal guarantee of principals

Depending on the project and client, you may want to have the principals behind a corporation sign a formal contract as personal guarantors.

Another variation is to have the contract in the name of the corporation and its principals as co-covenantors of the contract.

Involving client in assignment

Try to involve the client in some fashion during each step of the project. By making your client aware of your services, benefits, time and skill, you should minimize problems that could occur because of an unbonded or remote relationship. ❑

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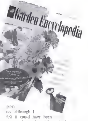

Think [illegible] gardening in North America [illegible] the [illegible] gardening [illegible]. Software [illegible] developed [illegible] related [illegible]. The [illegible] latest crop of CD-ROM[illegible].

The Garden Encyclopedia

From Books That Work
Price $29.95

The Garden Encyclopedia, from Books That Work, is a worthwhile product for novice and veteran gardeners. It contains photos and information for over 1,000 plants plus some mini movies demonstrating various methods such as selecting plants, transplanting and planting seeds.

My favourite part of the program is the search engine for selecting plants. You simply check off the qualities you desire such as plant type, flower color, sunlight requirements, bloom season, size, foliage, soil and other attributes.

I arbitrarily looked for edible perennial plants with white flowers that would tolerate partial sun. I also clicked on the box to exclude all poisonous plants, which was probably unnecessary in my case since I wanted edible ones. (However, this feature is important for parents and pet owners.) My search yielded Pansy and Sweet Woodruff. I learned that the latter, often used for ground cover, originated in North Africa and can be grown in my region. I clicked on the speaker icon and was given the Latin pronunciation for *Galium Odoratum*. If I so desired, I could call up a dialogue box and add my own notes.

The Garden Encyclopedia is laid out like a book. The first chapter contains general information about the Garden Encyclopedia and plant names. Chapter 2 contains videos and information about plant care and selection. Additional chapters include descriptions of the basic types of plants as nurseries classify them, and descriptions of different types of gardens, and expert selection lists for each garden. The chapters are followed by the Plants A-Z section, containing the plant photos and information, and a glossary.

To run this software you need a 486 or higher processor, Windows 3.1, 4 MB RAM, VGA graphics (256 colors or higher) and a double speed or higher CD-ROM drive.

The program loaded and performed flawlessly under Windows 95 and was incredibly easy to use. I really liked this program but would like to see it expanded.

This product would be a best seller if it had more plants and included common garden vegetables and fruits. Of course, at $29.95 it is a good value. Books that Work often bundles this software with its 3D Landscape program at a reduced price.

Contact: Books That Work 800 242 4546

The Pro Series Database for CD-ROM

From MKS Compugroup
Price $400

The Pro Series plant database has found a market niche as a visualization tool for garden centres, landscape designers and those who need to reference printed plant materials and accompanying photographs regularly. The program is also used by trained gardeners and horticulture students.

This product, originally from Green Thumb software, is now produced by MKS Compugroup in Laval, Que.

The disc has detailed information as well as 2,500 color photographs — on over 2,300 plants.

The Pro Series database is used in the field by landscape designers who can present clients with a picture of how their garden will look with various plants and trees.

Garden centres and nurseries customize the database to indicate the price and availability of various plants and shrubs.

The heart of this program is, of course, the database, which provides 20 fields of information for each plant. These include common and botanical names, plant type, leaf type, USDA growing zones, height at maturity, spread, life span, sun, water and soil preferences, soil stability, flower season and color, flower size, foliage color, growth rate, fire resistibility and general notes.

The photographs are an important feature but their quality varies from good to fair. This is probably due to the fact that the photographs were provided by only two sources.

The Pro Series database search engine is quite capable. If a client wants a deciduous tree with low water requirements and excellent soil stability which grows in USDA zones 6-7, the Pro Series Database will display a list of all plants meeting these requirements.

If you are a landscape professional, the product might inspire your customers to choose additional nursery stock, and thereby quickly justify the $400 cost.

The system requirements for the database are a 386SX processor, Windows 3.1, 4 MB of RAM and a CD-ROM drive. While it will run with VGA graphics, SVGA with 256 colors is recommended.

Contact: MKS Compugroup 514 332 4112

The Encyclopedia of Hydroponic Gardening

From Nelson Pade Multimedia
Price US$29.95
(plus $3 shipping and handling)

The Encyclopedia of Hydroponic Gardening is only available for Windows 3.1 at this time. The instructions warn that you may get an error message the first time you install the program if you are using Windows 95.

This happened to me, but the error message disappeared the second time I launched the program.

The CD-ROM comes with two versions of the program — the complete presentation including all the movies, and a second version without them. This is ideal for those with slower systems that may not have the muscle to run video clips.

I ran both versions and believe me, if you can't access the movies you are not missing much. Not that watching the ebb and flow of a drip system at work is not interesting, but these concepts can be adequately explained with text.

I found a number of faults with this program. It was slow to load. The recommended requirements include a Pentium with 8 MB of RAM and a 4X CD-ROM drive. I would hate to see how the program runs under the minimum 486 requirements.

Another fault with this program, and a gripe I have with many CD-ROM publishers, is the liberal use of the word encyclopedia. This conjures up a vision of almost limitless information, a bill The Encyclopedia of Hydroponic Gardening fails to fill.

On the plus side, it is an excellent introduction to the topic. I particularly liked the section on hobby systems. It shows numerous applications of hydroponic technology. I also liked the introduction to commercial hydroponics, although I felt it could have been more thorough. Other topics include growing techniques, plant culturing, plants to grow, pest and disease control and nutrient formulas.

The photographs are very nice and the text is understandable. However, as I discovered when I came across an appealing recipe in the program, you can't copy text or print from this CD-ROM. (Of course, this could be done using a program such as Corel Capture or a similar utility for grabbing screen shots.)

The Encyclopedia of Hydroponic Gardening can be ordered directly from the publisher.

Contact: Nelson Pade Multimedia 209-742 6969 ➤

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The introductory movie Why Plants Grow includes numerous time-lapse photography sequences of seeds sprouting plants growing buds flowering and peppers and tomatoes ripening There is even infra red footage of plants showing how they look to members of the insect world

The Exotic Garden is one of the best garden titles I have seen Although the CD-ROM focuses on exotic plants there is ample information on growing them indoors This makes The Exotic Garden especially useful for indoor planting enthusiasts If you like to grow exotic house plants from seeds this would be an ideal companion to help you learn and visualize more about exotic plants

For instance I like growing banana plants so I clicked on *Musa* in the index and found five photographs and ample information Plants can also be identified by common names and several other fields

If you know anyone who likes bromeliads cacti ferns herbs orchids palms and other flowering and foliage ornamental plants this would make an ideal gift It can usually be found for less than the suggested retail price

Minimum requirements for The Exotic Garden are a basic Windows multimedia PC with 386 processor 256 color graphics display and sound board

Contact Softkey Software
800-523 3520

Growing pains

Unfortunately most of the garden software products are fragmented and therefore incomplete Perhaps some company will fill some of the gaps with a series on vegetables fruit trees flowering plants house plants and landscape plants

Other valuable additions to gardening software would be the ability to include your own graphic files and illustrations This is something professional gardeners have requested Serious gardeners and there are many could also use this feature as a journal allowing them easy access to reference material on their collections and future acquisitions ❑

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Cyrix 6x86-P166+ a fast dancer for Win 95

BY ROY CHARTIER

Jan 24 1996 marked a milestone in the history of the x86 microprocessor. For the first time a company other than Intel has set a performance record for 16-bit software on the x86 platform.

MicroDesign Resources, the publisher of *The Microprocessor Report*, tested a demonstrator 6x86 P166+ machine and found that it slightly outperformed an identically configured system based on Intel's 166 MHz Pentium processor using both Ziff Davis and BAPCo's industry standard system level benchmark tests.

The 6x86 P166+ system scored 86.7 on the Ziff Davis Winstone 96 benchmark, and 374 on the BAPCo SYSmark NT benchmark. The Pentium system scored 82.7 and 354 respectively, according to MicroDesign Resources tests. The P166+ bested the Pentium by roughly five percent on mix 16/32-bit code on Windows 95 and by 7.7 percent on pure 32-bit code in Windows NT.

The P166+ slightly outperforms the 166 MHz Pentium in both mixed 16/32 bit and pure 32 bit environments. On the other hand, while the P166+ can return a slightly better result than a similarly clocked Pentium Pro in mixed 16/32 bit code in a Windows 95 environment, it lags far behind in 32-bit code in a Windows NT environment. For example, a 166 MHz Pentium Pro system returns a score of 590 (Intel figures) in the BAPCo SYSmark NT benchmark, besting the Cyrix P166+ by almost 58 percent.

	BapCo NT	ZD Winstone 96
Pentium 166	354	82.7
Cyrix 6x86 166+	374	86.7
Pentium Pro 166	590	

The Cyrix P166+ also marks another milestone by being one of the first processors to use the new P Rating system for microprocessors, a newly developed rating system agreed upon by Advanced Micro Devices (AMD), Cyrix, IBM Microelectronics and SGS Thomson Microelectronics. The P Rating system is designed to assist consumers by basing systems on "relative performance levels"

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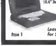

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rather than simply on the clock speed of the processor

The P-Rating System relates the results of industry standard benchmarks to that of the performance of a system based on an Intel Pentium processor at a specific clock speed. For example, a processor with a P133 rating would have comparable performance to that of a 133 MHz Pentium system, regardless of its actual clock speed. MicroDesign Resources Labs use the Winstone 96 to determine a processor's P-Rating.

According to Michael Slater, publisher of *The Microprocessor Report*, "This is the first comprehensive and credible method for comparing competing processors based on the relative performance they bring PC users under real world conditions."

The effect of the P-Rating System will be to remove the variable of architectural differences between competing processors. As a result, Slater adds, "a buyer can easily evaluate all personal computer processors for a given performance category... [without having to] scrutinize the architectural merits of the different processors."

The Cyrix P166+ is actually a 133 MHz processor with performance slightly better than a 166 MHz Pentium system (hence the "+"). Architecturally, the Cyrix P166+ offers roughly 1.25:1 performance on a per-clock cycle basis when compared to a Pentium. Similarly, the AMD 5x86 P75 is also a 133 MHz processor, yet it offers only 56 percent of the performance compared to a Pentium processor on a per clock cycle basis. With differences like these, the validity of the P-Rating system is apparent.

The P166+ is quite different architecturally from a Pentium but shares many similarities with the Pentium Pro. Although it lacks an on-chip cache like the Pentium Pro, it is superscalar with a superpipelined architecture that can support speculative execution, multi-branch prediction and out-of-order execution, in addition to other advanced techniques. Cyrix designed this chip for a mixed 16/32 bit computing environment, unlike the Pentium Pro, which was designed solely for 32 bit computing.

Cyrix chips are priced competitively with Intel's offerings on a performance basis that will roughly translate into very similar prices at the consumer level. ❑

Cyrix wants you

We had an opportunity to attend Cyrix's 6x86 product roll-out in Vancouver at the end of February. While the 166+ version of the chip is at the top of its sixth-generation CPU line, the company also makes 120+, 133+ and 150+ versions of the chip, which will compete with Intel Pentium chips of the same speed class.

Cyrix claims that its 6x86 variants have proven to be faster than Pentium chips of comparable speed rating on a number of standard benchmark tests, and faster than Pentium Pro chips on selected tests (mainly where 16-bit code is involved).

Cyrix says its 686 CPUs will work in Pentium motherboards, and they will be priced comparably. We are making arrangements to get a production machine (i.e., one you can actually buy) into our Test Lab, so stay tuned. —D.T.

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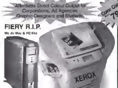

How I said goodbye to stress

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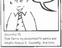
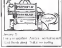
Bogged down in paperwork. Holidays postponed. Family really ticked off!

November 15
Purchased popular accounting system to help make things easier. Big mistake.


For he's a jolly good fellow...

December 15
Took Bernie my accountant's advice and bought Abacus II. Suddenly I'm a hero.



January 5
Finally on vacation. Abacus II worked so well I took Bernie along. That's him surfing.

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Paper menagerie

New CD-ROM brings art of origami to life

BY
KEITH SCHENGILI ROBERTS

Title	Paper Animal Workshop
Manufacturer	Technopolis Communications
System Requirements	Windows 3.1/95 capable PC or Macintosh with CD-ROM drive and 4MB RAM
Price	US$24.95

The art of origami — small folded paper sculptures — has been practiced in Japan for centuries. Many books have been published to help pass on the craft, but the best origami creators have learned from more-experienced artists.

The problem with communicating the art has been the two dimensions of the printed page — a problem overcome by CD-ROM technology.

Paper Animal Workshop from Technopolis Communications takes advantage of the 3D effects of multimedia to bring the art of origami to life for beginners.

This CD-ROM contains instructions for making a dozen figures, from relatively easy animals such as a whale or crow to more elaborate creatures like a peacock or, when you feel confident enough, the classic Japanese crane. Paper Animal Workshop includes plans for creating dioramas to house your paper menagerie.

Children and adults will have no problem using the program's simple controls. Click on the animal you want to construct from one of the wild vistas of paper creations displayed and the screen brings up an animated self-folding piece of paper. You can follow the folds at your own pace, and rotate the on-screen figure to get a better view.

This exceedingly simple little program, while not particularly flashy, uses multimedia effectively, and conveys a sense of how to make origami creatures in a way that no book can.

In this age of hard-disk hungry CD-ROMs, it is good to know there are programs like Paper Animal Workshop that run completely from the CD-ROM, needing no space on your computer. If you are using Windows 95 and have the Auto-Run feature enabled, the program starts automatically when you load the CD-ROM.

If you are interested in origami, Paper Animal Workshop should not be missed. ❑

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Windows 95 shareware, demos compiled

Blackhawk CD-ROM feeds hunger for 32-bit programs

BY KEITH SCHENGILI-ROBERTS

Blackhawk for Windows 95

Price US$28 95

Manufacturer Walnut Creek CD-ROM
System Requirements Windows 95-capable PC equipped with a CD-ROM drive

Windows 95 has been out for half a year but it often seems as though software companies have not produced much in the way of 32 bit programs. They do exist often available from bulletin board systems (BBSs) and the Internet

However not everybody has a convenient connection to these places or the time to spend collecting what they need That's where Blackhawk for Windows 95 a collection of Windows 95 programs might help

Compiled by the people at Walnut Creek Blackhawk is a CD-ROM crammed with Windows 95 programs and utilities Composed mainly of shareware or demo versions of programs, with over 180 MB worth of files (about 800) there is something here for everybody

It has a number of handy utilities like WinZip 6 0 and McAfee's VirusScan for Windows 95 One of the things Windows 95 does extremely well is connecting to and working with the Internet, and there is plenty of Internet related software here There are often several Windows 95 versions of popular Windows 95 FTP IRC Web and VRML browsers IRC and Telnet applications

There are also answers to common questions in the Internet frequently asked question (FAQ) files on the CD-ROM In addition there are several communications programs on the disc including A Talk for Windows 95 CommNet v2 1 and a demo version of Qmodem for Windows 95

There are programs here that will help you customize your Windows 95 desktop such as animated cursors and desktop themes There are also several patches and third party drivers that many will find useful And of course there are plenty of games like Hardwood Solitaire 1 41 Mahjong for Windows 95 and educational games for children

The CD-ROM is really only as good as the programs contained on it, but for a compilation of shareware applications Blackhawk is pretty good Many of the shareware programs are not up to par and lack the panache of the commercial versions that are beginning to appear and if you like a shareware program you are expected to pay for it But on the whole this CD ROM is a good sampling of what can be had

All of these programs can be found on BBSs or on the Net so this CD-ROM may not appeal to you if you have a modem and know how to use it The only other criticism is that Walnut Creek could have tried to cram a bit more on the CD ROM, as 181 MB only takes up about a quarter of the total available capacity

Walnut Creek has the habit of coming out with regular updates for their CD-ROMs, so it is safe to say the next incarnation of Blackhawk will contain much more material If you are a Windows 95 user starved for 32 bit programs this is a relatively cheap introduction to what is out there ❑

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Corbis on leading edge with Volcanoes

Publisher sets high standard for multimedia documentaries

BY JEAN ALLEN IKESON

Volcanoes: Life on the Edge
From: Corbis
System requirements: Windows version: 486/33 or better; 8 MB RAM; 256-colour VGA, double-speed CD-ROM drive; sound card; mouse and Windows 3.1 or better. Macintosh version: System 7.1; 25MHz 68030 or better; 8 MB RAM (12 recommended for Power Mac); double-speed CD-ROM drive; 13-inch or better monitor; 256 colors.
Estimated Street Price: US$50

Volcanoes: Life on the Edge is a great example of the new multimedia documentary CD-ROMs. While this label may sound a bit heavy, heavenly would be a better description. Like Corbis's first venture, A Passion for Art, this new CD will captivate you with its exquisite photography and entertaining spoken narratives accompanied by excerpts from professional volcanologists.

The last 20 years have been the most active period for volcanoes in the 20th Century. Included on this CD-ROM are pictures from *National Geographic* photographer Roger Ressmeyer who has captured recent eruptions such as Mount St. Helens and Mount Pinatubo and has documented the sites of past eruptions such as Mount Vesuvius. In true *National Geographic*

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style, Ressmeyer provides a roller coaster ride, from distant shots of panoramic views with pristine blue skies to a tighter focus on school children playing and growing up in the foreground of an ominous volcanic peak.

Four narratives are spoken while the slide show progresses. At any time the viewer may switch to a references/glossary section that explains the concepts, which are each linked to other terms.

This reference section, and the excellent narratives, add to the appeal of Volcanoes. The reference section explores the history of volcanoes and volcanology from a scientific perspective. The articles contain text, photographs, animations and audio clips. Particularly interesting are clips of modern volcanologists commenting on their pioneering predecessors.

Each narrative is also illustrated with maps, documents, paintings, and artifacts that will please individuals and delight schools looking for multimedia resources for whole learning projects. After looking at Volcanoes the librarian at my sons' school told me to "tell the company that this is just perfect."

One of the reasons it is "just perfect" is the mix of topics covered by the narratives, such as In the Shadow. This section delves into why people live near volcanoes and are affected by them. It explains the dangers and risks and the aspects of an eruption that are most likely to cause fatalities.

For those interested in the scientists, Volcanologists opens a window into their lives and their sometimes-dangerous field of study. A Distant Rumble gets to the nitty gritty of where the most sensational eruptions have occurred and where they are most likely to occur in the future. Here you are treated to glimpses of the effects of volcanoes, from Pelee to Krakatau.

The last narrative, the Photographer, follows Ressmeyer's experiences during the 14 months he spent photographing his explosive subjects. He discusses how the assignment changed his perspective of the "violence" of the Earth's features.

A slide show of his shots, which can be customized, should please those interested in the technical aspects of photography. However it can be a bit tedious to be subjected to strings of similar photos of children playing. It is as if you are looking at all the pictures that Ressmeyer took before the editor chose the pick of the crop.

Thankfully you are not subjected to such repetition in the slide shows. Every screen displays a film canister in the lower left corner. This is the menu icon. Clicking on it at any point lets you shift to the references, narratives, exit or best of all go to a section called Episodes. This screen shows a map of the world with boxes over volcanic areas. Clicking on one offers several choices for additional narratives on specific volcanic sites. These are simply wonderful.

The writing is so good that in places it borders on the poetic. The writing, photos and audio in combination convey a power and emotion that is difficult to get from a book. If this is the first generation of "multimedia documentaries," Corbis has set a high standard. ❑

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BY ROSS MACDONALD

Journey to the Planets
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Skirting all the obvious 'final frontier' jokes (for a change), it seems space is among the favorite topics of CD-ROM publishers. In the past year and a half, I must have received five or six such discs, most of which made use of the great photography and animation that NASA's Jet Propulsion Laboratory has come up with in recent years.

These CD ROMs also seem to share an uncanny reluctance to venture beyond the claustrophobic confines of our solar system into the universe as a whole. I now have four "solar system" CD ROMs and one that focuses solely on the history of the American space program which as far as I've heard hasn't ventured outside the neighborhood either.

Multicom's Journey to the Planets is alas another solar system disc, albeit one of the more obvious buys for the space-o-phile. The bulk of what's here constitutes remarkable photographs accompanied by comprehensive text which you can control or just watch — slide show fashion — once you've decided on a particular planet from the main menu.

Continued on page 88

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One of the most exciting new technologies combining interactive 3-D graphics with the Internet is virtual reality markup language or VRML (pronounced "vermel" — think "vermin" and you're bound to remember it).

At a book launch at the Inter/Access techno-art space in Toronto authors Stephen Matsuba and Bernie Roehl gave an impressive demonstration of the potential of virtual reality and interactivity on the World Wide Web.

The writers took their audience on a tour of VRML sites and interacted via a PictureTel teleconferencing system, with other artists and developers in Ottawa and Santa Monica, Calif.

VRML is a set of standards to allow computer users to create 3-D environments such as the 3-D art galleries and 3-D games that are already online.

The Special Edition Using VRML is a wonderfully complete description of VRML as it existed at the beginning of 1996. The book takes an exhaustively complete approach to describing the terminology, programming techniques and uses of VRML.

It comes with a CD-ROM containing VRML editors (Fountain from Caligari) and other programs and utilities that allow users to build and visit virtual reality sites on the World Wide Web.

Currently VRML is in a very primitive form somewhat like the state of the World Wide Web a few years ago.

Much of the existing VRML software is shareware — commercial VRML packages are just starting to appear on the market.

There are relatively few VRML Web sites and most are pretty basic (though even some "simple" sites require a looooong download for the 10-15 MB worth of files needed to recreate the site on your PC).

And the major problem with realizing the potential of VRML is bandwidth. 28.8Kbps is a pretty narrow pipe with which to ship digital worlds from one side of the earth to the other.

However, VRML is thought by some to have the potential to become one of the fastest growing "killer apps" (most compelling uses) of the World Wide Web. ❑

Contact Inter/Access 416-599-7206 at office@intacc.web.net
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Bernie Roehl at broehl@sunee.uwaterloo.ca at http://sunee.uwaterloo.ca/~broehl/

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TCP April

Modems and speeds — a brief review

BY FRANK GARCIA

What's fast, anyway? What are the benchmarks? And what exactly are the abbreviations bps, Kbps or Mbps that I keep seeing next to the modem speed?

To start with the speed of a modem is determined by the rate of data transfer from one point to another such as from an Internet service provider (ISP) to your computer The modem speed refers to the amount of data (bits, kilobits or megabits) that can be transferred through the modem every second. The "ps" part of the rating simply refers to "per second " hence the abbreviation for kilobits per second is Kbps, and megabits per second is Mbps

Bits vs bytes

As you may know, eight bits of data equals one byte A text character is one byte of information so a kilobyte refers to approximately a thousand characters (1 024 precisely) This makes a megabyte approximately 1,000 kilobytes (or 1 024 x 1,024 = approximately 1.2 million characters)

Modem speeds largely rely on the quality of the phone lines, the load of the hosting computer, the software being used, plus assorted communications protocols.

However, modem speeds are typically discussed in bits per second. The eight bits that make up a byte plus the so-called start bit and stop bit that tell a modem when to start and stop receiving data, typically add up to a bits-per-second rating that is roughly 10 times the number of kilobytes per second a modem is capable of transmitting

Modems never (well, almost never) race along at their speed rating because many variables affect optimized performance Modem speeds largely rely on the quality of the phone lines the load of the hosting computer the software being used, plus assorted communications protocols Only if you are truly dedicated dial up which means being connected to the Net permanently will you get the very best possible performance

300 bps

This is the slowest speed of all time. Snail s pace. Truly draggy Anyone who remembers working with a modem at this speed is to be revered for their saintly patience (They probably have grey hair too) They are also to be sympathized with for being present at the beginning. We seriously doubt anyone is still using a modem at this speed. In fact it's quite likely there are mass graves for 300 bps modems somewhere in Utah right next to Apple s deceased Lisa computer

1 200 bps

Four times a snail s pace is still too slow for graphics intensive telecommunications work.

2 400 bps

This speed was used by Bulletin Board Systems (BBSs) all over Some are probably still up and running but by and large this modem speed is obsolete too Do we have additional space for landfill here?

600 bps

Much better! In fact many public libraries use this speed for casual dial up users who want to connect and check on books and reservations This speed has been utilized by many a Bulletin Board too At least it was years ago

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Modems and speeds

Continued from page 60

14 400 bps

(Also referred to as 14.4Kbps or 14.4K, as in "I just bought a 14-dot-four Kay modem.") Finally a decent speed for the Internet When Mosaic broke out, many people used this speed to access the Web But it was still a speed that forced users to turn off their "Auto-Load Images," so they didn't sit drumming their fingers waiting for a five-minute download. This was top-of-the-line two years ago Today many who cannot afford the next level continue to use this speed. This can be bought for about $100.

28 800 bps

Today's casual dial up top-of-the-line screamer, is also known as 28.8Kbps A modem at this speed will cost in the neighborhood of $300 but that's changing With this speed you can turn on your Web browser's "Auto-Load Images" and enjoy all the glory without exasperation It's not necessarily double 14 400 for assorted reasons, such as the limitations of an ordinary phone line

56K digital

Originally marketed by phone companies to businesses for use with PBX (private branch exchange) type phones these low-end digital lines are sometimes referred to as Centrex lines

64Kbps

Also known as ISDN this next level is currently used primarily by those who can afford it — businesses Actually many consumers today can order ISDN into their home, if they've got the service companies and the bucks With this Web pages download in mere seconds instead of a minute or two and grabbing and playing Quicktime videos is a snap It is expected that one day in the very near future ISDN or a variation of this speed will become the standard. Everyone will access the Net with it use video clips with ease and actually be able to run CuSeeMe with greater clarity

128Kbps

Want double the performance? This speed

Continued on page 88

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I've been framed!

Weaving your own Web site, Part VII

BY KEITH SCHENGILI-ROBERTS

One of the hottest new developments in hypertext markup language (HTML) is the set of Netscape frame tags. With a framed Web page, you can have the content of multiple Web documents contained on a single page.

Frames also address one of the main problems with HTML — that of layout — by giving the Web author more control over exactly where the elements of a page can appear. By using frames, you have greater control over how a page looks and can deliver more information per page.

It is important to remember that when you use frames in a Web page, you are limiting the scope of your audience to people using Netscape, the only browser currently capable of dealing with framed Web pages.

Unlike Netscape's set of table tags, which borrowed heavily from an existing specification from the World Wide Web Consortium (the international body that is supposed to set HTML standards), the implementation of frames is Netscape's creation.

While the vast majority of Web surfers are viewing Web pages with Netscape, keep in mind that "most" does not mean everybody.

Layout and content

As I have said in previous articles I have written about the Web, HTML is limited in its ability to manipulate how things appear on your computer screen.

Unlike desktop publishing programs, which use tags to determine the layout of text and graphics on a page, tags in HTML determine the appearance but not the placement of text and graphics on a Web page.

Frames are not the perfect solution in this regard, but they do allow you to control the width and height of each frame, and how the content within a frame can be manipulated.

Each document contained within a frame can load a separate Web page independent of the other frames, making it possible to load new information on a page while retaining the information contained on the rest of the Web page. Frames can also be scrollable or non-scrollable, enabling Web page designers to cram more information onto a single page.

Framed Web pages consist of two different types of HTML documents: content and layout pages. Content pages are regular HTML documents that contain text, graphics, hyperlinks and all of the usual elements that can go into a Web page.

Layout pages contain information about a Web page's frame structure, along with the content pages. When you create a framed Web page, you [illegible] documents, all of [illegible] structure of a [illegible]

Setting frames

To understand frames, [illegible] tags necessary to create a [illegible] For the most part, the content documents contained within the layout document consist mainly of the plain Jane HTML that comprises every non-framed Web page out there.

Things begin to get tricky when you want to specify [illegible] framed content documents. [illegible] and the basics of frames, you need to know how to specify the layout document. Here is a fairly basic example of a framed layout document:

```
<HTML>
<HEAD>
<TITLE>Sample Framed Web Page</TITLE>
</HEAD>
<FRAMESET ROWS="60,*">
<FRAME SRC="top.html">
<FRAMESET COLS="40%,60%">
<FRAME SRC="left.html">
<FRAME SRC="right.html">
</FRAMESET>
</FRAMESET>
<NOFRAME><BODY>
If you see the following text, you are using
a Web browser that does not support frames.
</BODY></NOFRAME>
</HTML>
```

As you can see from the example above

Continued on page **93**

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TCP-April

See you on the Internet

CU-SeeMe a cheaper video-conferencing option

BY GEOF WHEELWRIGHT

Video conferencing via the Internet has become something of a holy grail to advanced telecommunications organizations around the world. While they tinker in their laboratories, many users are trying a system developed at Cornell University to experiment with the possibilities.

Known as CU-SeeMe, it is a free videoconferencing program (under copyright of Cornell University and its collaborators) available for use by anyone with a Macintosh or Windows and a connection to the Internet. The goal with CU-SeeMe is for any given user to videoconference with another site anywhere in the world or — using what is known as a "reflector" — with multiple parties at up to eight locations in a CU-SeeMe conference.

Its developers say that when work on CU-SeeMe began in 1992, the only real-time videoconferencing software for the Internet required expensive hardware, which severely limited the number of potential senders and receivers.

The philosophy of the Cornell project, according to its authors, was to start immediately with available, affordable hardware and deploy it as rapidly as possible. The goal was to stimulate creative thinking and create a wide base of user experience.

The key is that this system will step "down" in transmission rates according to the quality and quantity of the Internet "bandwidth" available. At its worst, a Cu-SeeMe video conference looks like a slide show with narration, but can scale up to more full-motion video quality as bandwidth increases.

CU-SeeMe developers say that because it uses simple video frame-differencing and compression algorithms, it opens networked videoconferencing capability to users of lower-cost desktop computers and enables broader participation in desktop-video technology.

CU-SeeMe runs on Macintosh and PC Windows platforms using the same kind of IP network connection required to access the World Wide Web. Each participant can decide to be a sender, a receiver or both. One of the project goals is to provide useful conferencing at minimal cost.

For Mac use, receiving requires only a computer with a screen capable of displaying 16 grays and a connection to the Internet. Sending requires the same plus a camera and digitizer which can cost as little as $100 to add to your existing system.

To use CU-SeeMe with Microsoft Windows-based computers and be able to properly video conference, you need a PC with at least a 486DX processor, Microsoft Windows 3.1 or higher operating system, at least a 256-color 8-bit video card, a video capture board that supports Microsoft Video for Windows, a video camera to plug into the video-capture board, a sound board that conforms to the Windows MultiMedia Specification and optimally provides "full duplex" audio functions (meaning that you can have something that sounds more like a telephone than an exchange over a "walkie-talkie"), as well as speakers and a microphone.

While CU-SeeMe does not provide users with the same level of capability as commercial video-conferencing systems using high-speed ISDN lines or dedicated satellite links, it offers a great way for enthusiasts to try the experience using equipment that they can obtain at relatively low cost and software that they can get for free.

Cu-SeeMe also offers a strong scalable model for Internet video conferencing as it is designed to make the best use of whatever hardware is being used to run it, rather than requiring users to go out and get the fastest, highest performance systems available before it will do anything. ❑

Contact: CU-SeeMe Web site at Cornell University
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A voice, some data, one line and you

DSVD is here and changing the way computer users work with their modems

BY GEOF WHEELWRIGHT

Digital Simultaneous Voice and Data (DSVD) is now a popular standard for modems that let you talk and exchange information digitally with another computer simultaneously over a single telephone line.

The arrival of a wide range of modems conforming to this standard thus eliminates, in many cases, the need for two separate telephone lines — one for voice and one for data — when using collaborative applications such as desktop personal conferencing or interactive games.

It's been a long time coming. The companies that originally developed the specification for DSVD in September 1994 — Intel, Creative Labs Inc., Hayes Microcomputer Products Inc., Rockwell and U.S. Robotics Inc. — have since been joined by a host of new competitors that have hopped on the increasingly popular DSVD bandwagon.

For modem makers, it has become a vital new way to provide products that offer something different to customers, many of whom are now getting basic 14.4Kbps and even 28.8Kbps modems installed in their new computers.

One key to the success of DSVD will be how well the developers of the specification are able to establish long-term interoperability. All modems based on this DSVD specification should be able to communicate with one another and alleviate customer concerns about interoperability. These concerns stem from earlier methods of simultaneous transmission of voice and data that required identical communication devices at each end of the transmission and could not perform these functions with communication products from other vendors.

An example of a product incorporating the DSVD specifications is a modem unveiled late last year by modem pioneers Hayes Microcomputer Products. The Hayes ACCURA 288 V.34 DSVD Message Modem, which allows simultaneous voice and data communications over one phone line, is available in both internal and external designs and boasts standard fax modem functions along with a full duplex speaker phone capability and Radish VoiceView software.

It comes bundled with Hayes Smartcom Message Center voice, fax and data software as well as Internet access software packages and complimentary America OnLine and CompuServe access software bundles that include free introductory online memberships. The price is not out of line for a higher end DSVD modem: the Hayes ACCURA external 288 DSVD Message Modem goes for US$359 while the recommended price for the ACCURA internal 288 DSVD Message Modem is a mere $339.

Why use DSVD?

According to Intel, DSVD improves upon other simultaneous voice and data technologies by giving a reasonable amount of "bandwidth" to both jobs — with the ability to simultaneously support data transmission at 19.2Kbps, while voice is moved over the line at 9.6Kbps on a standard telephone line.

So who would actually use these modems? Who needs to be calling someone and then transmitting data to them at the same time? Intel and its DSVD partners say there are both home and business applications for this technology.

Game manufacturers predict that people will want to use DSVD to play interactive com-

Continued on page 87

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A voice, some data...

Continued from page 85

puter games over the phone. For example, Fred calls Jim and asks him to play Interactive Grasshopper Battle Blaster. Deaf to his parents' pleas, Jim blithely consents and — without disconnecting the conversation — the two video miscreants connect their computers and play their game using the data channel while talking over the voice channel. When they finish playing, they can either exit the game or select the hang up option without disconnecting the conversation.

A more useful function for DVSD might be in technical support departments, particularly for software companies. A frustrated customer could call the software supplier using the voice channel and, if, for example, the driver had to be updated, the update could be transmitted directly to the customer over the data channel while the customer continued to consult the technician. Customers would not have to wait for the update to arrive in the mail or access the World Wide Web and download the needed software.

We know of two manufacturers — IBM Canada on some of its Aptiva models and AST Canada on some of its Advantage models — that offer this type of support.

Who owns DSVD?

As DSVD grows in popularity, the issue of who actually owns and controls it has come to the fore. Multi-Tech Systems Inc., of Mounds View, Minn., announced in October that it had been granted a new patent for the DSVD technology used in new modems.

The patented DSVD technology is used in the Talk Anytime feature of Multi-Tech's line of MultiModem PCSs and, according to Multi-Tech, is used by similar DSVD modems produced by other manufacturers.

The granted patent is but one of several DSVD-related patent applications before the United States Patent Office, in addition to similar applications before the international patent office.

Multi-Tech has a licence program in place for all manufacturers on a reasonable non-exclusive basis and the company's DSVD technology has been submitted to the Telecommunications Industry Association (TIA) for consideration.

"The issuance of our DSVD patent by the United States Patent Office marks an important milestone for DSVD implementation," says Multi-Tech president Raghu Sharma. "We invented and produced the world's first DSVD modem, and have been shipping several models for over three years. We strongly believe that the next major modem advance will be the integration of voice with normal modem communications."

Sharma endorses moves toward standardization, and says its licensing terms would be "fair and reasonable."

The patent issue is not likely to prove any significant hindrance to DSVD modem development, although manufacturers may have to pay a licensing fee for a while. At most, it will add only a couple of dollars to the cost of the modems. ❑

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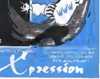

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Modems and speed

Continued from page 82

combines two physical wires and provides double ISDN speed. Again, this is the sort of option available to businesses who use the Internet on a heavy basis and download graphics, animation or complex documents.

1.544 Mbps

We're not finished yet! This one's 60 times faster than the fastest modem. This line, also known as T1, is for anyone who wants to be at the leading edge of electronic communications. This is for someone who's doing Web hosting and offering complex electronic commerce. (And believe us, it will happen!)

10 Mbps

Eeeyikes! This is it! Total raw speed. If you've just got to run like DC Comics' super-hero The Flash and bend the laws of physics, here you are. The phone company says that with this line "your Internet access runs at virtually the same speed as your Ethernet LAN. Files are accessed, information is exchanged, applications are launched from a remote location as conveniently as from the next port on the LAN." ❑

A fairly fantastic voyage

Continued from page 77

Of course, this CD-ROM wouldn't qualify as the multimedia experience touted on the box unless there were at least a minimum of animation. And that's exactly what Multicom delivers. Where the photos, text and occasional narration provide you with excellent detail on a planet's characteristics, [illegible], physiology and even exploration (where applicable), there's only a handful of the fun stuff here — animations of flights over hypothetical landscapes to see what those might look like if we could actually [illegible] a ride on the Millennium Falcon.

We've all seen such cartoons. And anyone with even a marginal interest in the [illegible] space has always loved them, which makes it all the more curious that Multicom didn't include more on this disc.

However, Journey to the Planets deserves a lot of praise, too, largely because of its sophistication. Though akin to a [illegible] book on disc, the level of information [illegible] exceeds the childish, [illegible] expanding the vocabulary of the [illegible] scientist. And for those [illegible] unqualified for even the rank of [illegible] space cadet, there's a glossary of terms that's always within easy reach on the screen.

Getting going is equally easy since there are, after all, only nine planets plus the Sun to be explored. Presented with a "photo" of the solar system, you click on the planet (or star) you're after and you're presented with a sub-menu of various topics about your particular choice.

Pandering to the widest possible audience necessarily entails being rather too simple for the serious buff yet too complex for the dabbler. If, however, you fall somewhere between those extremes, Journey to the Planets will be a good addition to your CD-ROM library. ❑

Contact: Multicom Publishing, 2420-100 First Street, San Francisco, CA 94105. Tel: 415-777-5300

Voice, data and speed

Modems in 1996

BY JEFF EVANS

Twice a year, *The Computer Paper* takes a snapshot of current modem technology, and it has been interesting in the extreme to see the rapid pace of change in this important product category over the last year and a half.

At the time of the first survey (written at the beginning of 1995 and published in the March issue of *TCP* that year), the 14 400 bit per second modem was still a major part of the market. By the fall of 1995 when the second survey appeared, the 14 400 bps modem had virtually disappeared from the desktop PC market, and was on the verge of bowing out from the PCMCIA card notebook market. This time around, the most obvious changes are:

- the integration of combined voice and data capability in 28.8Kbps desktop modems
- 28.8Kbps PCMCIA modems have replaced 14.4Kbps modems, and the prices have fallen radically
- new modem technologies: cellular digital, ISDN and cable modems are all struggling for acceptance as the telecom industry and its supporting technology approach some drastic changes.

In many cases, we feel it is risky to recommend modems much faster than 28,800 until the winners in the high-bandwidth telecom sweepstakes become clear.

We have a 500Kbps Rogers Wave cable modem in our home office (see the article on Rogers Wave: *TCP* March issue), and it works fine, but we're renting it, not buying it.

What makes a good modem?

For all the different brand names and feature sets, most personal computer modems share a lot in common.

First, virtually all are based on chip sets from either Rockwell or AT&T, the two traditional leaders in fundamental modem technology.

Secondly, the disappearance of the 9 600

Continued on page **91**

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I've been framed

Continued from page **83**

you have to declare that a Web page is framed so the browser knows how to interpret it

This is done by substituting the usual <BODY> ... </BODY> set of tags with the <FRAMESET> ... </FRAMESET> tags When a regular Web browser reads the <BODY> tags, it knows it has to display everything that occurs within the tags Similarly when Netscape reads the <FRAMESET> tags, it knows that it has to interpret and display the frame

Note that without the <BODY> tags you will get a blank page on any non Netscape Web browser There is a provision for this that we will look at shortly

When you specify a <FRAMESET> tag, you can indicate whether you want to frame a horizontal row or a vertical column. With the tag <FRAMESET ROWS="60 *"> we are telling the browser to set a frame row 60-pixels deep and a wildcard to leave the remaining space open for the use of other frame tags

Similarly the <FRAMESET COLS="40% 60%"> tag specifies that the remaining space left by the wildcard specified in <FRAMESET ROWS="60 * > should be filled with two vertical rows one occupying 40 percent of that space and the other filling in the remaining 60 percent

Immediately following each of these <FRAMESET> tags, you must specify the content document that will fill the frame you just specified The first file specified is "pointed to" by the tag <FRAME SRC="top html"> Note that this is more like pointing to an image file (<IMG SRC="sample gif">) in HTML than anchoring a hyperlink (<A HREF="top.html"> ...</A>). The content documents specified after the second set of <FRAMESET> tags will similarly fill in the frames set for them

But what about people who are not using a Web browser that utilizes frames? That is where the <NOFRAME> set of tags come in Anything appearing within the <NOFRAME> set of tags is not displayed by a frames-capable browser. That means you use this space to notify people using other browsers that the page uses frames

At the very least good frame design should always use the <NOFRAME> tags in this way because otherwise non Netscape users will be left in the dark.

Voila! You've got a simple framed Web page Very simple actually There's a lot more to frames, such as targeting hyperlinks to other framed pages, adding or restricting scroll features within a frame, and many other modifications you can make More will appear on frames in upcoming issues of *TCP*

Correction

In the February Stupid Net Tricks article I wrote about creating a side-banner running down the side of a Web page The code I supplied with the article was correct but as several readers pointed out I left out one crucial detail — the size and shape of the GIF file Essentially the GIF file has to be wide — at least half the width of most people s displays for the trick to work (1 024 pixels works well) Add a color bar or design to the left side of the GIF file Set the color of the background page to the color of the rest of the GIF file When the GIF file is tiled, this will produce the sidebar trick ❑

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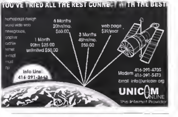
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Voice, data and speed

Continued from page 89

modems (with 14 400 modems on their way out) means virtually all modems being sold today are 28,800 models. They handle data at 28 800 bps, and fax transmissions at 14 400 bps.

Some industry standards are present in virtually all modems:

- V42 bis and MNP5 compression features (which under ideal conditions allow for higher rates of data transmission)
- V42 error control (which allows modems to detect errors and re-send data until it is correctly received)
- Warranties tend to be better than the industry norm for other peripherals such as printers or monitors (usually one or two years) or personal computer systems (which are often around three years). Most modems come with a minimum five-year limited warranty and many come with a "lifetime" warranty. This is a fairly safe claim perhaps since the rapid introduction of new models means the rapid obsolescence of old modems. (Who cares about the warranty on a 300 baud acoustic coupler modem for a Commodore 64?)
- Installation, especially of PCMCIA card modems for notebook PCs has gotten a lot easier. Card and socket software is very good, and the Plug N Play features of Windows 95 have done a favor for notebook owners running that O/S. Even the Mac PowerBook line has finally added PCMCIA slots as a standard feature and we have seen some very good modem cards working on these new Apple notebooks
- Most modems come with a variety of extra, value-added" software such as WinFax Lite COMit or FaxWorks (the most common) and sign-up diskettes for online services such as CompuServe Prodigy or America Online
- Prices for PC modems have fallen with less variability amongst the various types. Internal desktop PC modems are the cheapest, followed pretty closely by external modems, and then at a modest distance by PCMCIA modems. The most expensive category are still the Ethernet/Fax Modem combo cards.

What does a good modem cost?

At the time of our last survey the 28 8Kbps internal and external desktop PC modems were running in the $350 to $450 price range while 28.8Kbps PCMCIA modems were still scarce and $150 to $300 more expensive

PCMCIA modem/LAN adapter cards were even more expensive running close to the $1,000 mark. In the last six months desktop modems have come down in price considerably and appear set to continue falling. PCMCIA modems are also closing the price gap with desktop models.

Some of the 14 4Kbps models are selling for street prices in the $150 range, a real drop from early 1995. Your best guide for real modem street prices are the ads in *The Computer Paper* and elsewhere.

How to buy a modem without even thinking

Not all modems are sold as a separate peripheral. Increasingly you may find a modem embedded in some other computer product.

For example multifunction devices, which combine fax modem scanner, copier and printer functions (such as the Xerox WorkCentre 250 reviewed in the January issue of *TCP*) typically come with a modem

Some notebook computers (such as the NEC

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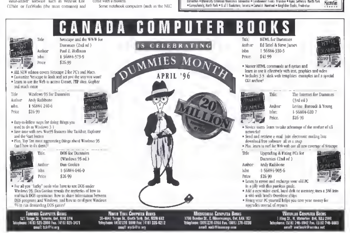

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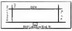

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Versa 2000C this article is being written on) come with a built in modem. This can be very handy because a modem built-in on the notebook PC motherboard is likely to be substantially cheaper than a separate PCMCIA modem, and having a built-in modem frees up a PCMCIA slot for other devices, such as detachable hard drives, network cards, external CD-ROM drives, and flash memory cards. (The downside, of course, is that you may be stuck with old technology in your portable.)

Many brandname desktop PCs for the home and home office markets (including some from NEC, AST, IBM and Compaq) come with built-in modems.

The main reason is that the modem hardware is coupled with sophisticated voice, telephony and fax/modem software to offer answering machine, voicemail, and other sophisticated features. One thing to be wary of: some of the early offerings of this sort had 14,400 bps modems, which forced users who wanted reasonable performance on the Web to go out and buy 28,800 bps models.

What to look for in 1997

By this time next year, there may be a more obvious direction in high-bandwidth communications, and safer choices in high-speed modems. There may also be the beginning of a new generation of portable digital communications devices — so-called Personal Communications Systems (PCS) devices.

These will be wireless gadgets that allow the user to perform many voice and data functions within a building, or wherever there is a cellular-phone system. Digital cellular modems for notebook and Apple Newton users should be cheaper, more reliable and more flexible. ❑

If you have any comments or questions, please contact me at jeff@tcpon.com or 416 588 1580

What's that in English?

Of all the segments of the computer industry, the telecommunications part probably has the most and the worst jargon. One of the best references for the confused modem user is Newton's Telecom Dictionary, an excellent and complete reference for everything relating to telecom, written by Harry Newton and published by Flatiron Publishing Inc. Now in its ninth edition, it is a fine achievement.

For the purposes of this article, however, here are a few simplified definitions from Newton's dictionary.

MODEM: Acronym for MOdulator/DEModulator Equipment which converts digital signals to analog signals and vice-versa.

BAUD RATE: A measure of transmission speed over an analog phone line — i.e. a common POTS line (POTS stands for Plain Old Telephone Service). For your modem to put data on your phone line means it must send out an analog sine wave (called the carrier signal) and change that carrier signal in concert with the data it's sending. Baud rates measure the number of changes per second in that analog sine wave signal. Baud rate is often confused with bits per second, which is a transfer rate measuring exactly how many bits of computer data per second can be sent over a telephone line.

BPS: Bits per second. A measure of the speed of data communications. There are many ways to measure bits per second. You have to factor in speed of writing and reading from the disk and the [illegible] of transmission. All data communications schemes have error-checking systems, some better than others. Typically such systems force a retransmission of data if a mistake is detected. You might have a fast, but "dirty" (i.e. lots of errors) transmission medium, which needs lots of retransmission. Thus the "effective" bps of that communications network may actually be quite low.

V.42 bis: The ITU-T (International) data compression standard. It compresses bits "on the fly" at an average ratio of 3.5:1 and can yield file transfer speeds of up to 9,600 bps on a 2,400 bps modem ... or 115,200 bits on a 28,800 bps modem. V.42 bis modems used to be significantly more expensive — now they are standard, and cheap.

MNP: A proprietary error-correcting and data compression protocol for dial-up modems. The Microcom Networking Protocol is a patented technology that aids in the accurate, high-speed transmission of data, even over noisy poor-quality phone lines. If a modem's specs indicate that it has MNP10, then your modem should be able to efficiently transfer data at the highest possible rate, and adjust [illegible] — JT

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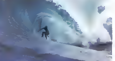

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Java primer aimed at ordinary Joe

Slim book covers basics of object-oriented programming

BY KEITH SCHENGILI-ROBERTS

Hooked On Java:
Creating Hot Web Sites with Java Applets

Author	Arthur van Hoff, Sami Shaio, Orca Starbuck
Publisher	Addison-Wesley
Price	$41
ISBN	0-201-48837 X

Softcover with CD-ROM 181 pages 1996

Java is one of the hottest things on the Internet right now. I'm not talking about coffee here, but a programming language from Sun Microsystems that lets users download small programs, called "applets," from the Internet.

And, as the latest "hip" thing on the Net, it is sparking a flood of books, of which *Hooked on Java* is a good, if slim, example.

If you use Netscape or Sun's Web browser, you will run into several of the many Java applets. Some are simple animations, such as Web pages containing "nervous text" that jumps around the screen, or the Java mascot. But there is more to Java than cute animations. It is a full-fledged object-oriented programming environment akin to C and C++. There is a lot of potential to the language, particularly because it is platform independent.

Hooked on Java begins with a review of the development of Java, how it can be used and some predictions about how it will likely affect the Internet.

The middle section of the book is devoted to a listing and short explanation of the more than 30 sample Java applets, all of which are contained on the accompanying CD-ROM.

The rest of the book is devoted to explaining how to write Java code. It describes class structures and basic commands, and provides good, concise examples for trying it yourself.

There is nothing on the CD-ROM that can't be found elsewhere, but it does manage to collect everything into one neat package. However the price seems steep for such a slim little book that is essentially a primer on Java.

If you do not already have some experience with a high level programming language, *Hooked on Java* is full of good material.

Rating:
Information content ***_
Readability ****
Intended for Beginner / Intermediate
Overall Rating ***_

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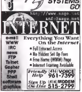

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Mom takes on Windows 95

Book's cast of characters entertain and educate

BY KEITH SCHENGILI ROBERTS

The Mother of All Windows 95 Books
Authors Woody Leonhard & Barry Simon
Publisher Addison Wesley
Price $55
ISBN 0-201 40971 2
Softcover 922 pages 1996
Comes with CD-ROM

Look out 'cause Mom is back! Authors Woody Leonhard and Barry Simon have come up with a unique approach to teaching readers of the Mom series of books just about anything and everything about Windows 95.

The authors create a cast of characters each with his or her own abilities and knowledge of an operating system who bounce ideas and discoveries off each other. Each character embodies a point of view.

The cast of this book includes a cockroach who finds other bugs, technophiles Sarah Savant and Max and Rush the Dummy and Igor who try to keep everybody grounded in reality while injecting some humor. There's also Bill95 (based on you know who) and of course Mom who makes sure nobody strays too far off topic.

It may sound like a strange way to write a book, but the approach works well, and gives the authors a freedom to expound upon Windows 95, and covers a lot of ground in a short space of time. It makes for an entertaining and highly educational read.

Unlike many other books which seem to parrot the established wisdom about the operating system (derived mainly from Microsoft's own reviewer's guides and Resource Kit), Leonhard and Simon have actually delved into Windows 95 uncovering lots of interesting material.

The book begins with the basics of Windows 95, and then goes into great detail about the core components of the operating system, getting into the nitty-gritty aspects and exploring advanced features in depth.

For example, the writers provide a thorough explanation of how to use the FileFind feature and they come up with a few features not to be found in the documentation. This leads to a short, spirited discussion about "MSG" or "Microsoft Goody Specification" which posits that "there can be no documentation errors if there is no documentation" about a feature.

The more adventurous and technically minded reader can follow the book's characters through the registration database and many of the Windows 95 system files. The CD ROM that comes with the book contains oodles of useful third-party drivers and minor fixes for Windows 95, as well as demo versions of some computer programs.

This is a great book if you really want to learn about Windows 95. A beginning user will benefit from reading this book, but intermediate to expert computer users will get the most out of it.

Expect it to have a long shelf life and to be dog-eared when you retire it from your bookshelf years from now.

Rating
Information content *****
Readability *****
Intended for: Intermediate Expert
Overall Rating *****

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The error of their ways

Author shines light on Windows 95 bugs

BY KEITH SCHENGILI-ROBERTS

The Windows 95 Bug Collection
Author Bruce Brown
Publisher Addison-Wesley
Price $19.95
ISBN 0-201-48995-3
Softcover 255 pages 1996

Bugs are as endemic to software programs as they are to ant and termite colonies. It is simply impossible to anticipate every single use for a computer program. As a result, even major programs have their own set of "unintended features." And Windows 95, one of the largest programs made for the consumer market, is no different.

The *Windows 95 Bug Collection* brings together the bugs that have arisen from the recently released operating system.

Calling itself the "master bug list for Windows 95," it lists several hundred bugs that can occur while using Windows 95.

Actually, most of the bugs are not with Windows 95, but with the various hardware and software it interacts with. This is not unexpected, and many of the bugs listed here are related to programs or peripheral devices that were created long before Windows 95 appeared. Nevertheless, the book brings together a mass of knowledge about how other devices and software work with Windows 95.

Author Bruce Brown must have gone through the technical notes and called the support services for umpteen hardware and software companies to compile the information in this book. The eight chapters deal with a range of topics, including problems associated with installing Windows 95, using various utilities, hardware, communications programs, and games.

All of the bugs are reported in alphabetical order by the name of the product, so they are relatively easy to find. Solutions and fixes are provided, where available.

Only the final chapter is devoted purely to bugs found within the operating system. Some of the biggest surprises include the fact that Windows 95 will not work on some Intel 386 processors, and a prediction that the corruption of the all-important Windows 95 registry will be the Achilles-heal of the operating system.

This book will seem dated quite quickly as many of the programs covered are getting old and there are few Windows 95 application programs referenced.

The information is good and it is easy to follow, but unless you have a zillion programs and peripherals for your computer, you won't fully utilize this book.

But consider picking it up if you deal with computers everyday — the amount of time it can save you is well worth the price.

Rating:
Information content: ***
Readability: ***
Intended for: All Users
Overall Rating: ***

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Canadian computer executives gain stature, real earnings flat

(NB) — Times are not so bad for senior information technology industry executives in Canada. Their pay is, on average, keeping pace with inflation — at a time when the real income of most Canadians is declining — and many are gaining stature within their organizations.

According to a survey released by Weir Executive Search Associates Inc., the average base salary for Canadian IT executives was $85 700 in 1995, up 1.3 percent from $84 600 the previous year.

With inflation running somewhere between one and two percent in Canada in the last couple of years, this represents no real gain, but is better than the situation facing many workers whose pay has been frozen or even cut if they are among the lucky ones who did not actually lose their jobs in the early 1990s or the subsequent "jobless recovery" of the past few years.

Meanwhile, 38 percent of the 236 executives (from a nationwide sample of 1 328) who responded to the survey said they expect their over-all budgets to rise in 1996, 46 percent anticipated no change, and only 14 percent forecast a budget cut.

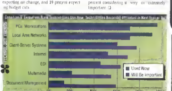
This compares with last year's figures of 39 percent expecting an increase, 40 percent expecting no change, and 19 percent expecting budget cuts.

Another indication of IT executives' growing status is the fact that nearly 25 percent of the survey respondents this year report to the chief executive, president or general manager of their companies, versus about 17 percent five years ago. The percentages reporting to the chief operating officer or chief financial officer, and to the vice president of administration have also grown, while significantly fewer senior information technology executives now report to a vice-president of finance.

Meanwhile, a look at the titles of survey respondents shows that, over the past three years, the percentage of vice-presidents has risen from 11 to 17 percent, while the percentage whose business cards just say manager has gone down from 47 to 39 percent. Four percent are now chief information officers, versus two percent in 1993. Most of the remainder are directors of management information systems (MIS), information technology or information systems.

Asked to rank the importance of various emerging technologies, more than 80 percent of respondents named enterprise networks and client/server systems as "very" or "extremely" important.

The Internet came last on the list of 10 emerging technologies, with fewer than 50 percent considering it "very" or "extremely" important. ❑



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Of rooks and RISC processors

Computers fail to be human enough in latest chess championship

BY REITH SCHENGILI ROBERTS

"Human beats computer" was the headline of the day when top chess champion Garry Kasparov beat IBM's Deep Blue at the Association for Computing Machinery Chess Challenge in February

In the six game match, world chess champion Kasparov handily beat the most powerful chess computer in the world three times, drew twice and was defeated once

The mainstream news media latched onto the John Henry like saga of man winning against machine but failed to explore the story further What matches like this show is not necessarily how far computers have progressed in thinking like people but just how far away they still are from that goal

"It's not about competition between people and machines. It is a demonstration of what makes us human beings so different from computers," the Association for Computing Machinery said in a statement summing up the match

The competition highlighted how the story of our relationship with computers has only just begun

A brief history

Chess is thought to have originated in India sometime in the second century AD From there it spread through Europe and Asia, and then across the rest of the world By the mid-19th century there were organized tournaments and soon after rating systems for players Chess remains one of the most popular board games in the world

Forms of computerized chess have also, surprisingly been around for a long time Several automatons, a collection of clockwork gears and actuated levers in human form that could make a few basic chess moves against a human opponent were created in the 18th century

And it was only a matter of time until mathematicians, attracted by the elegant mathematical relationships at the heart of the game came up with chess programs for the early computers they were developing The first chess program was written by Alex Bernstein at the Massachusetts Institute of Technology between 1958-59

In 1967 the Machack VI computer was the first to play in a human chess tournament In the same year the first international match between Soviet and American chess computers was played (the Soviets won that first cold war computer chess battle)

With the introduction of integrated circuits more raw cheaper computing power was available and in 1976 the first chess-playing computers for commercial use began appearing on the market

Computer technology in the form of a microcomputer did not triumph over a chess master in tournament play until 1983 This was followed shortly by the establishment of a computer masters rating

It began to seem inevitable that in time a computer would be the world chess champion After five years, which saw its prototypes become the dominant chess-playing computers Deep Blue appeared to be up to the task

Deep background

Deep Blue is a networked parallel computer built almost entirely (97 percent) of compo

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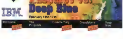
nents that can be purchased by the average consumer.

This IBM RISC System/6000, scalable POWER parallel systems high-performance computer is the successor to Deep Thought, which became the world computer champion in 1989.

Despite its success, it was defeated by Kasparov. The IBM scientists went back to the drawing board and came up with Deep Blue, which was designed to address many of Deep Thought's system limitations, such as calculation speed and processing power.

By match time, Deep Blue could out-calculate Deep Thought by a factor of 1,000 and examine more than one billion moves per second.



Tactics vs. strategy

So why have computers repeatedly balked at beating the world's best human chess players?

Simple: they aren't human enough.

Despite the pumped up processing power of the latest generation of computers, simple calculations aren't enough to beat a human world chess champion.

Nathan Divinski, a retired math professor and former president of the Chess Federation of Canada, characterized the match between Deep Blue and Kasparov as a battle of "tactics versus strategy."

Although a computer can come up with all of the possible advantageous chess moves, these calculations are not the equivalent of developing a plan for playing the game against an opponent.

A human can use strategy to play chess, keeping an overall view of the direction of the game in mind.

If a human player planned to move offensively on one area of the board while feigning on another, a human opponent would be capable of seeing the threat and countering it. However, a computer does not approach the game in those terms. It simply calculates a prodigious number of advantageous moves based on the moves of its opponent. Despite its power, the computer is left to construct tactics one move at a time.

One-man advantage

One chess commentator, Yasser Seirawan, said: "I've been told that in the space of a mere three minutes, the computer can calculate 50 billion positions. Meaning it has no chance. It's up against Garry Kasparov."

It is important to remember that we are not talking about your typical chess player here.

Born in Baku, Azerbaijan in April 1963, Garry Kasparov started playing chess at [illegible] and became Soviet Junior Champion in 1976. In 1980 he became an International Grandmaster, and in 1985 took the World Champion title from Anatoly Karpov. Kasparov was the youngest person ever to win the championship.

At the end of the battle with Deep Blue, he walked away with $400,000 and IBM came away with $100,000.

Bigger is not necessarily better

What is increasingly obvious is that chess computer designers will have to take a new tack if they want their creations to beat human players of Kasparov's calibre. Deep Blue's successor will undoubtedly be able to calculate more moves per second, but ever increasing processing power seems unlikely to change the result.

The leap from mere tactical playing to an overall understanding of the game, with an ability to use that knowledge strategically, is one that computers are not even close to attaining.

As the human-computer chess rivalry illustrates, you don't have to worry that your spreadsheet or word processor is going to put you out of a job anytime soon. But do keep in mind that Kasparov lost the opening game of the match, the first time he has ever lost to a computer opponent. ❑

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Excel 5.0, Introduction, Slow-Paced	021	24-25	27-28	19-20	25-26		18-20
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Access 2.0, Introduction, Slow-Paced	031		6-7			6-7	
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Access 2.0, Advanced	033		22	24		20	24
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It's back to business, says Apple Canada chief

Profitability predicted in late '96

BY JEFF EVANS

The key advice offered by science fiction writer Douglas Adams, in his *Hitchhiker's Guide to the Galaxy* series, was a simple phrase: "Don't Panic!" Apple Computer executives would probably like to have this sentiment applied to the current frenzy over the fortunes of the maker of the popular Macintosh line of computers.

In an interview with *TCP*, Apple Canada head Peter Jones insisted that, although the recent losses were a concern, the overall picture was much more positive. Over the past several months, there has been a lot of concern about the state of Apple Computer Inc., one of the originators of, and key players in, the PC industry.

Faced with record losses, widespread criticism of senior management, and challenges ranging from a shrinking global market share to ever sharper competition from Microsoft's Windows O/S and Intel-based PC vendors, some media coverage suggested that the end was near for the Cupertino, California-based company and the 20 million or so Mac users.

Not so, say Apple executives, urging a calm look at the facts.

Jones was particularly happy with the choice of Apple's new CEO, Gilbert F. Amelio. "I'm pleased to see Dr. Amelio as new chairman," Jones said. "He had a proven track record with (silicon-chip manufacturer) National Semiconductor. He went into a tough situation there, and quickly transformed that company into a profitable and much more focused company."

Jones indicated that Apple's goal is to break even in its next quarter, and return to profitability in the quarter after that. He pointed out that more than 1.3 million Macs were sold in the last quarter — a record sales quarter for Apple.

"At Apple Canada, expect to see us committed as always to three key markets — consumer, education and business, with a focus on the segments where we have a strong track record, such as multimedia, publishing and the Internet.

"Apple is clearly first in education, we're battling for the first position in the consumer market. When you look at the facts, what is true is that we had terrific shipments and revenue, but the truth is that at the same time we were unprofitable."

Jones said recent layoffs at Apple Canada were "very painful," but he preferred to look ahead.

"I feel really passionate that there are certain undeniable strengths to the company. First, our customers. There are nearly a million in Canada and they are tremendously loyal. Second, the Mac's superior technology is an extremely strong advantage. And finally, our employees, whose dedication and loyalty has built the company."

Jones said after "some tough stuff" that had occurred over the last few months, it was time to get back to business. "This is an $11.5-billion corporation that is growing rapidly," he said.

"The world wants choices, and Apple stands for that." ❑

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CLIPPER DEVELOPERS ASSOC. OF TORONTO. Next meeting will be held on Thursday March 7 1996 at the North York Central Library in North York at 7:00pm. The speaker will be Larry Atkins, topic ReportPro. For more info please call Mike Parente (905)326 5491

COMPUTER TRAINERS' NETWORK meets 2nd Thursday of each month to discuss training issues & share ideas @ CIBC Bldg 25 John St. For info call 416 784-4155

DURHAM PC USERS CLUB meets on the second Thursday of every month, 7-10pm, free admission, at CAW Local 222 Hall 1425 Phillip Murray Ave Oshawa. Call Allan Hewitt 1-905-723-7475 Linda Nolten 1-905-623-2787

The International Programmers Guild (IPG) meets every Saturday afternoon 1:00pm to 4:00pm at 6535 Millcreek Drive Unit #44 in Mississauga. Free PG and Internal seminars. Just drop in or call the IPG at (905)812 1717 for more info

P.C.C.T. (Personal Computer Club of Toronto) IBM and PC Clone users meet third Tuesdays in the ??? room of the North York Memorial Community Hall 5110 Yonge St. North York @ 7:00 pm. Next meeting is Feb 20 1996 featuring a presentation on Quick Tax by Intuit. Inexperienced? Come to a New Users special meeting on Wed March 21 @ 7:30pm @ York Public Library. Membership includes 12 special interest groups and workshops shareware library. Voice-info 966 416-633-6971 and Club BBS Line 416-636-6394

TANUG's (Toronto Area Network Users Group) meetings will be held at the Education & Meeting Centre located at the Canadian Bar Assoc. 2nd Fl. 20 Toronto St (Yonge & King). Seminars are as follows: Feb 20 Network Mng Systems. April 16-Migrating to High Speed LAN's. June 12-Remote Access. Sept 11 Integrating Networks & Nov 13-Novell, what's new for 97. For further info on membership & seminar costs please call TANUG @ 416-269-0940

Toronto OS/2 User's Group meet on the 2nd Thursday of every month at 7pm-10pm at the IBM Canada Bldg 3600 Steeles Ave E in the Auditorium (plenty of free parking). Free admission for everyone. For further info please phone 416-299-3410 or fax 416-299-4821 or e-mail to2@io.org or http://www.io.org/~to2

Toronto PAF Users Group will meet on the 2nd Saturday of every month at 1:30pm at the Family History Centre, 95 Melbert Rd. Etobicoke. There will be presentations relating to various features of PAF and shareware programs. Visitors Welcome. Register at reception free. Call 621-4607 from 1-4pm Monday - Thursday for information

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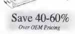

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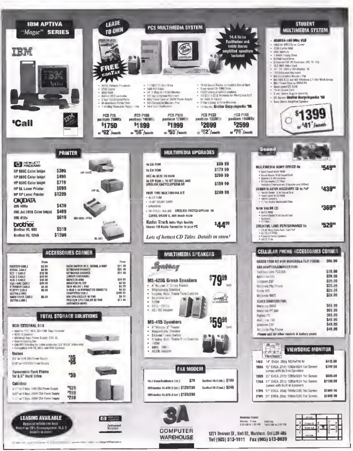

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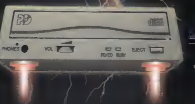

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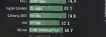

	PD Drive	NEC Optical Drive	Colorado	Zip Drive	Syquest
4X SCSI CD-ROM (read only)	Yes	No	No	No	No
Technology	2 in 1 CD-ROM Optical Drive	Optical	Tape Backup Sequential	Magnetic	Magnetic
Compressed backup capacity	650MB	1.3GB	800MB	100MB	270MB
Media Cost	$85	$198	$45	$27	$90
Physical Durability	Good	Good	Good	Fair	Good
Driver Applicable	Win 3.X Win 95 Win NT MAC DOS	Win 3.X Win 95 MAC DOS	Win 3.X Win 95 [illegible] [illegible]	Win 3.X Win 95 [illegible] MAC	Win 3.X Win 95 [illegible] [illegible]
Drive Price	$699	$1,465	$275	$290	$550
Total Price With CD ROM (add $370)	$899	$1,835	$645	$960	$920

The above information is for reference only. Specification subject to change without notice.

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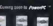

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